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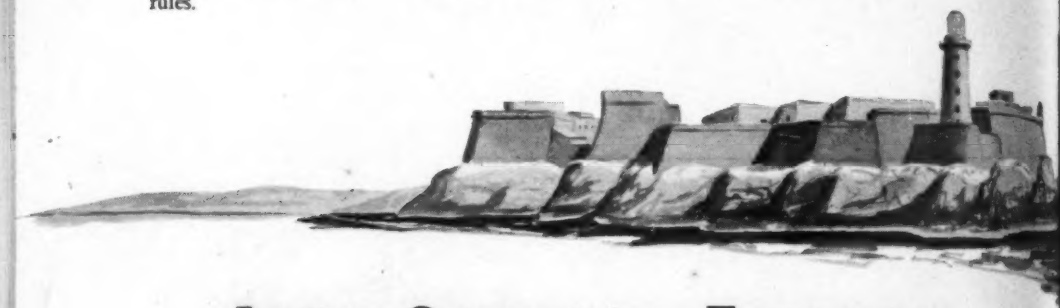

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No. 5

AIR TRANSPORTATION

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May
1944

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The Cover—All Aboard. *The Conestoga, new cargo plane of stainless steel now in mass production by the Edward G. Budd Company of Philadelphia, stands ready to receive an unusual cargo. Named for the wagon that helped pioneer the settlement of colonial territories west of the Alleghenies, the new plane is an economical cargo carrier in many ways resembling a "flying box car."*

JOHN F. BUDD, *Editor and Publisher*

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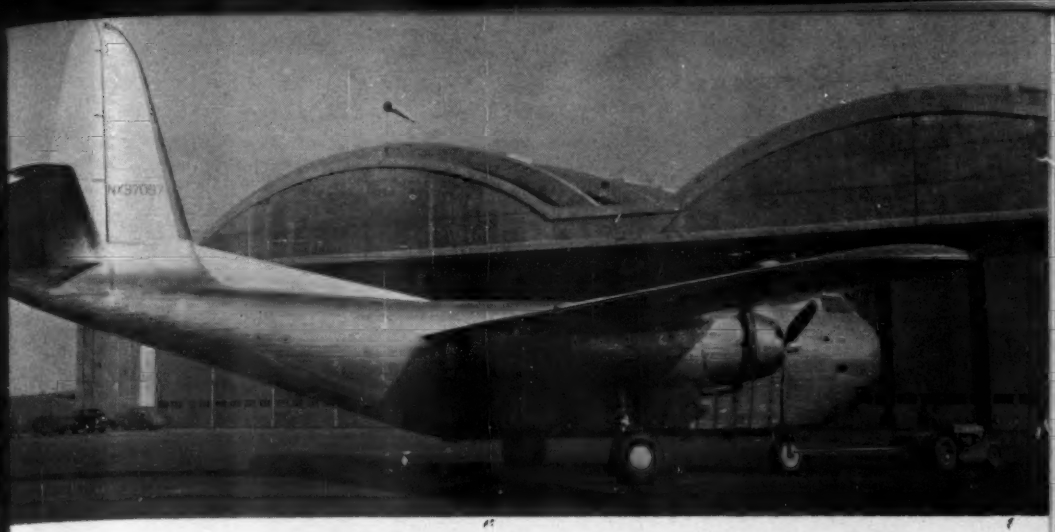


Stainless Steel Cargo Plane Developed by Budd Co. as Economical Freight Carrier

Two-Engine Transport Has Novel Features Designed To Facilitate Cargo Handling

A NEW air cargo plane, designed specifically to carry freight economically on flights of moderate length and constructed of welded stainless steel from plans which are expected to have a pronounced effect on the character of air transports of the future, has just been put into full scale production by the Edward G. Budd Manufacturing Company in its new airplane plant in Bustleton on the outskirts of Philadelphia.

The new plane, known officially as the "Conestoga," in honor of the vehicle which helped pioneer the settlement of colonial territories west of the Alleghenies, was designed by a staff of Budd engineers directed by Dr. Michael Watter, a veteran airplane designer, and developed under the sponsorship of the Navy Department, Bureau of Aeronautics. It is currently being built under a Navy Department contract.

Construction of the plane, believed to be one of the best kept secrets of the war in the Philadelphia area, was undertaken in an effort to create a "flying box car," which could carry freight economically on moderate-distance flights, and also make possible the loading and unloading of cargo with ease and speed.

The plane is a two-engine transport 68 feet long, with a wing spread of 100 feet, and is capable of transporting 10,400 pounds of cargo over a range of 650 miles under A.C.A.A. license. Its 14-cylinder radial air cooled engines deliver 1,200 horsepower each for take-off, and have a normal rating of 1,050 horsepower. Taking into consideration the types of airports from which the plane may have to operate, the designers provided facilities to make

possible take-offs from short landing strips, even with heavy loads. In tests the plane demonstrated that in normal operation it could lift 10,400 pounds of payload from a landing strip with a run of only 920 feet.

Provides Ramp for Loading

Aside from the type of construction and its unique appearance, the plane's most distinguishing feature is its provision for

LOOKING OUT *—A United States Navy car prepares to enter the cargo compartment of the Conestoga. The compartment is a space 25 feet long, 8 feet wide and 8 feet high wholly unobstructed by structural members.*

FROM THE OUTSIDE LOOKING IN— *Cargo moves easily into the large interior of the new stainless steel cargo plane. Here a vehicle has mounted a special ramp which facilitates loading and discharge.*

carrying cargo, and a ramp to facilitate its loading and discharge. The cargo compartment is a space 25 feet long, 8 feet wide and 8 feet high wholly unobstructed by structural members. The plane is also equipped with a large cargo hatch in the underbody. This hatch may be lowered to form a ramp to the surface of the landing field, or a loading platform level with the platform of a truck. Behind it are two large clearance doors which may be lifted out of the way to provide the necessary headroom to utilize the 8-foot square cross section of the cargo compartment.

In an effort to allow trucks to be moved close to the fuselage to pick up or discharge shipments, a large clearance is provided below the fuselage and back of the ramp by the upward sweep of the plane's afterbody. Provision is also made for handling cargo with the aid of a specially-designed hoist fitted above the loading ramp, and a manually operated winch mounted on the forward end of the cargo compartment. These permit the loading of large, heavy pieces of freight, machinery or motor transport. An ambulance and a jeep both can be rolled into the cargo space at once and still leave a large space for stowage or other cargo.

One of the most advanced developments in the design of the plane for cargo handling is that all loading is done on the level. On the ground as well as in the air the floor of the cargo compartment remains horizontal, thus obviating the necessity of hauling freight up an inclined floor before stowage. This feature is made possible by a tricycle landing gear.

How is this unusually large cargo space made possible? The answer can be found in the unique design for the attachment of the wing to the fuselage. The wing structure does not pass through the fuselage in conventional fashion. Instead, Budd designers, through a novel arrangement of the fuselage, were able to attach the wings to five special side frames joined across the body by shallow, but rigid transverse members, thus providing headroom of 8 feet or 2½ feet more than that possible with conventional structure.

Troop Transport

Although designed primarily as a cargo carrier, the plane is easily converted to troop transport or aerial ambulance use. Provision has been made for the installation of twenty-four seats and a like number of stretchers. According to spokesmen for the manufacturer a possibility exists under which the plane may be used for the evacuation of wounded from battle areas to base hospitals behind the lines. In such use, the level loading feature is expected to prove most advantageous as stretcher cases must be handled in horizontal position to insure their comfort.

Even paratroops may be launched from this plane of many uses through doors in opposite sides of the fuselage. The discharge of cargo, or paratroop supplies and equipment by parachute is also possible through the opened clearance doors in the aft portion of the body.

The object of their admiration is the shiny, new stainless steel cargo carrier, the Conestoga. Welded of steel, this cargo carrier is a two-engined transport 68 feet long, with a wing spread of 100 feet, capable of transporting 10,400 pounds of cargo over a range of 650 miles.

In flight, the new plane requires only a crew of two, a pilot and co-pilot, whose quarters are in a roomy, comfortable, full-height operating compartment in the nose of the plane. Engineering attention, it was said, was equally divided between the design of this compartment and the facilities for handling cargo. Dual controls are installed, as well as remote control radio and facilities for blind landings and take-offs.

The plane is easy to fly, and here is the report of the pilot who took the first plane off the ground: "A little boy could fly it." This feature, in the eyes of its designers, fulfills one of the principal objectives of the new plane, namely, an airplane of its weight and power which can be flown by pilots of limited experience.

The effectiveness of stainless steel in the new plane is disclosed by the fact that although the total weight of plane and full load is 33,800 pounds, 10,400 pounds represents the weight of the cargo. This is said to be an unusually high ratio of total payload to total weight.

Carrying a full load, including equipment, fuel and the crew, the plane at a cruising speed of 165 miles per hour will have a range of better than 600 miles. The maximum range with available fuel tankage will be about 1,700 miles. This can be increased up to 3,500 miles with auxiliary fuel tanks.

The Budd design was accepted by the Navy in 1942, and in May of that year construction of the Budd Field plant and airfield began. The formal contract was granted in August, 1942; the static test plane completed a year later and the static tests were over in October of 1943. The initial test flight was made on Oct. 31, 1943.

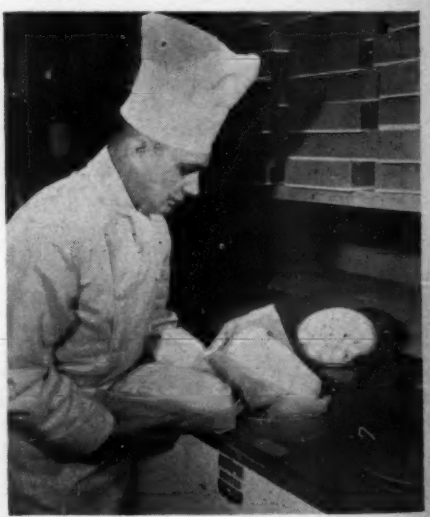
Air Transport Aids Poultry Industry

Brazil has turned to air transport for aid in the establishment and feeding of a poultry industry in its strategic "bulge" region, where there is a wartime problem of food supply, according to Luiz do Rego Cavalcanti de Albuquerque, a member of Brazil's Agriculture Department, who has come here to study poultry farming as a guest of the Office of Inter-American Affairs.

Some 35,000 chicks and turkey pullets, he said, were flown from Rio de Janeiro to farmers in Rio Grande de Norte, Parahyba, Pernambuco and Alagoas—four of the states that comprise the bulge that juts into the Atlantic toward Africa.

"The poultry is fed from supplies of wheat, bran and meat meal also brought by plane from Rio," he addded. "This is one of the steps taken to set up new and fast-producing sources of food supplies to provision the soldiers and defense workers that have moved into the strategic area."

Although poultry raising in Brazil has been limited to the areas around Sao Paulo and Rio de Janeiro, the nation is now looking toward its extension in the four states and to the north.



Now, Quick-Frozen Rolls: That's the three-way play developed by Fred Raich, pastry cook in United Air Lines' Chicago flight commissary in connection with a new dough-freezing process. Raich has evolved a sweet-roll mix which, when kept at temperatures between 12 and 16 degrees above zero, can be stored for at least 90 days before baking.

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British Experience With Chosen Instrument Policy Offers Little Aid to U. S.

Dr. Grossman of N.Y.U. Declares British Policy Responds to British Problems

By Dr. William L. Grossman
School of Commerce, Accounts and Finance, New York University

FOR obvious geographical and political reasons, transoceanic air transportation has long been a subject of great concern to the British. They have gone and are still going through an intense struggle to achieve the most desirable form of organization for such transportation. Now that we in the United States are engaged in a somewhat similar struggle, it is natural for us to seek precedents in British experience and policy.

In particular, advocates of the policy that our transoceanic air operations be confined to a single "chosen instrument" have persistently emphasized British experience. They point out that the British used to have four international airlines, but that they abandoned that scheme and now have only one international airline. The implications are that the British have recognized the greater desirability of the single-chosen-instrument form of organization, and that if we wish to compete favorably with the British we must do likewise.

The meager historical summary provided in that argument is not untrue but it omits important parts of the picture. The issue is sufficiently significant to require us to reconstruct, at least in outline, the whole story of British international air organization.

The change from four airlines to one airline took place in 1923-1924. The four airlines had operated, with the help of subsidies, from England to points in Europe and the Channel Islands. The chief reasons for the change were (quoting the Secretary of State for Air, in his summary of the conclusions of a committee that recommended such a change) "that, as things are now, there is not sufficient business for a number of small competing companies, and that all that is happening under the present arrangement is that the State, that is financing all the companies, is merely competing against itself." It therefore appears that the British Government intended to confine subsidies, for the time being, to a single airline but not to create a permanent monopoly.

The single, subsidized airline was Imperial Airways. In later years, the line concentrated primarily on long routes connecting England with various parts of the Empire. In the early 1930's, some unsubsidized English airlines started operations, although at a loss, between London and various European points. In 1935, the Government decided to subsidize an airline to operate to Scandinavia. The new company, formed by an amalgamation of small existing companies, was called British Airways. Thus Britain subsidized at the same time two distinct and separate airlines. Indeed, on one route (London-Paris) Imperial Airways and British Airways competed directly with each other, although the lat-

ter had no subsidy for that route. Both airlines were private corporations.

Up to that time, and at first even under the new plan, the cost to the Government was moderate. In 1936-1937, direct subsidies to British civil aviation amounted to only £312,044. Then they began to increase at an alarming rate. In 1937-1938, direct subsidies were £614,072. In 1938-1939, they climbed to £1,047,967. And further increase was inevitable. In view of the prospect of tremendous subsidies, the relation of the Government to the airlines required reexamination. The Cadman Committee, appointed by the Secretary of State for Air, recommended (1938) that the dividends of subsidized airlines be restricted. The Government chose another solution to the problem—public ownership. It introduced a bill, the British Overseas Airways Act, that provided for the creation of a government corporation to take over the business of the two subsidized private airlines. Establishment of such a corporation would avoid embarrassment in connection with the granting of huge subsidies and would at the same time make for administrative and operational strength. The bill was passed in 1939, shortly before the outbreak of the war. The statement of the late Sir Kingsley Wood, then Secretary of State for Air, in telling Parliament of the proposal, suggests that public ownership as a solution of the subsidy problem was the major objective of the Act and that unification was of secondary importance. Said Sir Kingsley:

". . . in the light of the opinions expressed by the Cadman Committee that dividends of subsidized air transport companies should be restriced to public utility rates and of the Government agreement in principle that public money should not be used for raising dividends to undue levels, it appears desirable to take steps to ensure that the large additional capital needed for development should be raised on terms which would not prove unduly expensive to the Exchequer. The rapid expansion of overseas services coupled with the great technical advances which are being made in this sphere moreover call under present circumstances for the pooling of resources and the strengthening of administrative and operating organisations to the fullest possible extent.

"In these circumstances the Government are of opinion that the most satisfactory instrument for the development of overseas civil aviation would be provided by the association of the two chosen instruments—Imperial Airways, Limited, and British Airways, Limited—in a single public corporation. The Government, therefore, propose to recommend to Parliament legislation setting up a Public Corporation which will acquire the existing undertakings of Imperial Airways and British Airways."

Indeed, the British Airways operation was relatively small (its annual subsidy was about one-tenth as large as Imperial Airways'), and unification could have been effected more simply through purchase of the small enterprise by the large one. But such a purchase would have perpetuated private ownership, and the Government wanted public ownership.

Let there be no doubt that the single subsidized airline, British Overseas Airways Corporation, which has been created under the provisions of the Act, is a government corporation. The Act provides that the "members" (virtually the directors) of the corporation are to be appointed by the Secretary of State; that the number of members, subject to a stated maximum and minimum, is to be determined by him "from time to time;" that their remuneration is to be determined by him with the approval of the Treasury; and so on. To be sure, BOAC enjoys a certain autonomy, but so does our government-owned TVA.

As a result of many years of trial and error, then, the British have embarked upon a policy of government ownership of subsidized international air transportation. Rather curiously, that fact is not emphasized in most of the American discussions of British policy. Those discussions have stressed the chosen-instrument aspect of BOAC. Let us consider, then, the extent to which BOAC is a chosen instrument.

The term "chosen instrument" requires definition. To Americans it generally means an airline that has been chosen by a nation to be the only international or overseas airline operating under its flag; or, sometimes, an airline that has been chosen by a nation to be the only airline operating under its flag to and from a certain foreign area. Englishmen use the term more frequently to mean an airline

The Writer

Teacher and lecturer, Dr. William L. Grossman is a member of the faculty of the School of Commerce, Accounts and Finance of New York University where he is in charge of several transportation courses. He has also conducted classes in air transportation at the Guggenheim School of Aeronautics and in the federal government's Engineering, Science and Management War Training program.

He is co-author of "War Economics" and of the "New York Port District Freight Manual," and has contributed articles to the "Journal of Commerce," "Commercial and Financial Chronicle," "Journal of Business of the University of Chicago," "Yale Law Journal," "American Mercury," and numerous other periodicals and journals.

Dr. Grossman has made several radio appearances, and is a member of the New York bar.

that has been chosen as the sole recipient of subsidies for operations between the mother country and certain other or all other areas. The difference between the American meaning and the English meaning is highly significant. In the English sense, BOAC is a chosen instrument. So were Imperial Airways and British Airways. In creating BOAC, the British may be said to have adopted a single-chosen-instrument policy in place of their immediately previous policy under which two chosen instruments had been established. However, the British Government has not committed itself to the single-chosen-instrument policy in the American sense. Under the British Overseas Airways Act. BOAC has a monopoly on subsidized overseas service, but there is nothing in the Act to forbid unsubsidized operations by other British lines. This interpretation not only is apparent from the terms of the Act but has been asserted officially by the Government. In a speech on January 19, 1944, before the House of Lords, Lord Beaverbrook stated:

> *"The chosen instrument, the British Overseas Airways Corporation, is not a monopoly; there is no monopoly at all. It has a monopoly of subsidies for overseas air traffic, but nothing else. So far as overseas air traffic by private companies, shipping companies or other concerns may be carried on without any subsidy, then there can be no objection on account of the statutory rights of the British Overseas Airways Corporation."*

It is reported that more than thirty British steamship companies have obtained corporate power to provide air transport service. Whether any overseas operations other than those of BOAC will actually be permitted after the war, we do not know. But there is nothing in the Act to forbid such operations.

Is Experience Helpful?

One serious question remains: To what extent is British experience helpful to us? In the past, the most pressing problem in British civil aviation has been to provide adequate air transportation over Empire routes, i.e. between Britain and her dominions and possessions. However, the possessions of the United States are such that our civil air transportation to and from them is likely to be much less important on the whole than our civil air transportation to and from foreign nations. Problems associated with the political affiliations between Britain and the other parts of the British Commonwealth furnish special reasons for unification and government operation of air transport that would not obtain in the case of the United States. Indeed, Britain herself may find post-war changes desirable. Great pressure is now being brought in England for a policy that would encourage private concerns to engage in international air operations. It

may well presage adjustments in British air transport organization appropriate to the anticipated increase in the demand for air service to places outside the British Commonwealth.

Two conclusions are indicated. Firstly, there is no British chosen instrument in the American sense, and no private British airline is a chosen instrument in any sense. Present British policy on the subject merely confines international-air-transport subsidies to a single airline—and that airline is a government corporation. Secondly, British policy has been a response to British problems and those problems have been essentially different from ours. In the future, as major British operations extend beyond the British Commonwealth, the problems of the two nations with regard to the organization of international airlines will be more nearly the same, and future British experience and policy will therefore be more valuable to us. Unfortunately, the formulation of an American policy cannot wait.

Air Cargo Packaging Forum Set for New York

The first annual Air Cargo Packaging Luncheon and Forum, sponsored by the Aviation Section of the New York Board of Trade, will be held Friday afternoon, June 23, in the grand ballroom of the Hotel Pennsylvania in New York, according to an announcement by John F. Budd, chairman of the Board's Aviation Section.

The committee on arrangements includes Lyle C. Ray, vice president, Aviation Packaging Corporation; George F. Bauer, consultant on international trade and air commerce; J. Malcomson, technical director of the Robert Gair Company, manufacturers of fibre containers; Louis de Garmo, vice president, Albert Woodley Company, consultants on packaging and package displays; and Harold Jackson, president, William H. McGee & Co., aviation and air cargo underwriters.

Reservations may be obtained through Dan H. Ecker, secretary, Aviation Section of the New York Board of Trade, 291 Broadway, or by calling Mr. Ecker at BArclay 7-9494.

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Transport Aircraft To Fill War Needs Evolved By Britain

Avro York, Transport Version Of Lancaster Bomber, To Fill Gap In Production After War

By JOAN BRADBROOKE
British Aviation Writer

UTILITY is a word which has been used increasingly in Britain during the past four years to describe sensible, useful and standardized civilian goods. It is a word which might also be applied to the Avro York, the transport version of the great Avro Lancaster bomber. The meaning of the word "utility," according to the dictionary, is "useful," and that is the keynote of the York.

Besides being the first transport aircraft to be built in Britain since the beginning of the war, the York is also the first of a new generation and an interesting experiment. The merits and demerits of "converted" bombers for transport work have been debated on both sides of the Atlantic, but the prospect of only such types for the immediate post-war British air transport routes was viewed with little favour. The York was thus awaited with more than ordinary interest.

The York is not a "converted" bomber. It is a transport aircraft evolved to fill the war needs and, at the same time, to comply with the official proviso that the huge production program of Lancaster bombers must not be interrupted. Because of this restriction, comparatively few Yorks have been built as yet, and the flow of Lancasters to the Royal Air Force has been not only maintained, but increases month by month.

Specifically designed to use as many parts of the Lancaster as possible to ease production, maintenance and the all-important problem of spares, the York has the same wing and tail units as the Lancaster, although a third fin has been added to the tail to balance the increased forward keel surface of the new fuselage.

Usefulness Is Theme

The Lancaster is a mid-wing monoplane. In the York, the wing has been set high so that the fuselage could be kept low to the ground and the main spar interrupt the cabin as little as possible. As with the Lancaster, either Rolls-Royce Merlin or Bristol Hercules engines may be fitted.

The fuselage is thus the one feature in the York which differs radically from the Lancaster. Again the theme is usefulness. The slab-sided squareness of the York's fuselage is intended for bulky loads, ease of loading and unloading and capacity as a freighter. It is not beautiful, nor can it be pressurised, but it has clean lines and does the job.

For freight-carrying, the interior is an unrestricted shell which can hold a variety of cargo varying from four Jeeps, complete aero-engines ready for mounting—"power eggs" as they are called in Britain—large crates, light tanks, propellers, 15 or 20 Lancaster wheels and tires, or a dismantled Hurricane or Spitfire fighter.

The big hatch and the nearness of the fuselage to the ground, reminiscent of the forward part of the fuselage of the Curtiss Caravan, allows easy loading because only a small ramp is needed which Jeeps can

ascend under their own power. For loading "power eggs," a special lightweight ramp with a built-in trolley and winch has been designed by Avres and is carried as part of the York's equipment.

The loading hatch of the freight version of the York, on the port side at the rear, is about 8 feet wide and 6 feet high. Instead of the more conventional doors, it is covered in with a panel which has to be screwed and removed, somewhat like a cowling, for loading and unloading.

Speedy Conversion

One of the requirements in the specification of the York—that it must be convertible from freight to passenger use within twenty-four hours—gives the hull of the freighter fittings such as oxygen points; but such fittings do not interfere with the unobstructed roominess which is one of the features of the fuselage.

As a passenger transport, up to 56 passengers may be carried on short ranges, but the first York to be delivered to British Overseas Airways is fitted for 24 passengers and probably has a range of between 1,500 and 2,000 still air miles.

Like the Lancaster, the York has great carrying capacity and, for short-range work—about 500 miles—it can carry a load of about 10 short tons (20,000 lb.). Maximum still air range with standard tanks is 3,000 miles with a cargo load of about 6,000 lb. Maximum cruising speed is 275 m.p.h. and the most economical cruising speed just under 200 m.p.h.

Smooth Flying

A crew of four is usually carried, and their quarters are compact but comfortable. The view from the pilot's cockpit over the short nose is excellent and wide, because the wing is set back. The view from the passengers' windows is also perfect, as with most high-wing monoplanes. Pilots say that the York is as smooth to fly as the Lancaster.

With a span of 102 ft., a length of 78 ft., height of 20 ft. and an all-up weight of some 32 short tons (64,000 lb.) the York is the largest British transport aircraft to be built so far and as large as any aircraft in regular transport service today. Operated by the Transport Command of the Royal Air Force, a York has flown the Atlantic, to Egypt and to many parts of the world, and is certain to give excellent service in the future.

The York has not the studied refinements of the Douglas C-54 as a civil transport, nor is it claimed as Britain's real contribution to post-war air transport craft. It is intended to bridge the gap between the immediate post-war period and the time when bigger transports are produced in Britain and designed from the first for that set purpose.

The Avro Company may well be proud of the transport version of the Lancaster. To design an aircraft from scratch is one thing, but to take bits and pieces of one aircraft, make new parts, add the whole together and expect the perfect civil transport is a different matter. The York, however is doing well at the job for which it was built.

This is the Avro York, Britain's new civil transport version of the famous Avro Lancaster Bomber. Externally, the main points of difference between the York and the Lancaster are the shape of the fuselage (designed especially for passenger or freight carrying) and the introduction of a triple-fin tail unit in the former.

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New Cargo Plane Is Time Saver; Freight Units Loaded by Hoists

With removable cargo units and an inverted tail group as its principal features, a new type cargo plane, designed to expedite the handling of air transport freight, has been developed by R. Earl McKaughan, president of Aviation Enterprises, Ltd., operators of the Aviation Enterprises maintenance and overhaul plant at the Municipal Airport in Houston, Texas.

The new cargo compartment and plane is the result of Mr. McKaughan's long experience in ground transportation where he became convinced of the necessity for the rapid interchange in facilities for commodity handling. Letters of patent have already been granted to Mr. McKaughan by the government of Mexico, while issuance of United States and Canadian patent rights are still pending.

A significant feature of the new plane from a practical aircraft engineering standpoint is the inverted tail group which permits flight advantages as well as distinct aids in ground handling.

Transcending this in importance, however, is the design for a compartment that fits the assembly space within the fuselage for the transportation of either liquid or bulk materials. This removable cargo compartment meets the necessity of rapid transit through efficient interchange methods and affords numerous advantages in air transportation of cargos not yet applied to regular use.

Here is how it works: The removable compartment helps eliminate time ordinarily consumed in small unit, piecemeal loading and unloaing of the cargo plane along the route or when it is operating on a rapid round-trip schedule between two points. Before taking off the cargo unit is loaded in one operation by hoist equipment; unloaded in the same way and reloaded in a similar fashion. Movements of individual pieces of cargo are thus eliminated, and the plane may resume its journey in much less time than it formerly took. The cargo is generally loaded from a truck or loading platform.

The time and handling advantages in cargo operations on a unit basis with the removable cargo compartment also preclude extensive possibilities for increasing the total tonnage of the unit plane service per hour of flight operation since the loading and unloading are only a matter of minutes.

R. Earl McKaughan

The adaptability of such a plan to military operations is another possibility since speed is important. A plane's vulnerability to enemy attack increases with the length of time that it remains on the ground in one place.

The history of Mr. McKaughan's interest in aviation goes back more than fifteen years. Brought up in the field of motor transportation, he became the operator of his own motor transport business and from the apparent measure of his activity seemed destined to stay in that field.

Unable to limit his interest he decided to investigate the possibilities of aviation. He became a pilot, later purchased his own plane and began his first commercial venture with a single plane charter service. He soon added another plane, then more, and in 1940, with an associate, organized Aviation Enterprises. The organization made a reality of the aviation service he had only previously thought about.

In the early thirties, Mr. McKaughan began an intensive study of aviation transportation facilities, and in 1938 put into tangible plans his ideas for the new type cargo plane. Although the war has in many respects retarded the complete assembly of this plane, plans are definite for its practical use as soon as possible.

A graphic portrayal of a freight compartment loading in advance of the plane's arrival; the quick interchange of loaded compartments; and the swift departure of the cargo plane on schedule. →

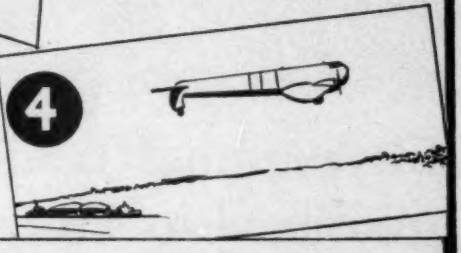
Time and Handling Advantage of McKaughan Removable Cargo Compartment on Fixed Air Route

Freight Plane Arrives on Schedule Cargo is Ready for Loading —

At Freight Concentration Depot freight is assorted and loaded into unit compartment before plane arrives

In Freight Depot- Removable Compartment is hoisted out - and new one loaded - Unloading and loading time 20 Minutes

After 30 minute - Maximum Stop - Freight Plane, with new load is again in the air —



EXAMPLE - 'A'

UNIT CARGO CAPACITY 10 TONS ···· DISTANCE 1000 MILES ···· FIVE LOADINGS HANDLED AVERAGE 20 MINUTES PER LOAD CHANGE - TOTAL 50 TONS HANDLED - 5 HOURS FLYING TIME. LESS THAN 2 HOURS HANDLING TIME. (WITH RETURN TRIP - 100 TONS HANDLED - 2000 MILE SERVICE - 14 HOURS)

WAR ROLE—War cargo for the fighting fronts is loaded on the mammoth Coronado in preparation for a Naval Air Transport Service contract operation. Cargo shipments by air have become all-important in the global war.

STRANGE BIRD—Streaking across Africa with vital war cargo, these speedy aircraft of the United States have by this time become familiar sights to the natives of the Dark Continent.

International Trade by Air Envisaged by Pan American

A DRAMATIC word picture of a vast international trade by air with the airplane, swiftest trade vehicle used by man as the nucleus of the system, has been drawn by Pan American World Airways.

With the coming of peace, the airplane and jeep motors, bomber repair parts, machine tools and nuts and bolts that today make up so large a part of international trade by air will be replaced with the goods of peacetime commerce. Air express experts today contend that air transports will carry some part of everything that enters into international trade. Planes will not carry grain loads or huge amounts of coffee, but will bear samples of each and many other bulk commodities.

So thoroughly has the entire subject of international trade by air been explored that experts have prepared charts showing all the items which move internationally, detailed as to type, volume and destination and broken

down by classification into those which they feel can be moved by air most profitably to all concerned. As aviation designers each day gain new knowledge of the problems raised by air cargo operations, newer and larger as well as more efficient types of cargo planes are being designed to meet the needs of both shippers and airline operators.

With technological advances, shippers can look forward to the time when the air express rates will be lowered, because of reduced plane and operating costs. In addition to a vastly increased movement of goods already carried in sizeable quantities by air but which will be added to with lower rates are items which have not yet moved by air and have moved in only limited quantities.

While the Clippers are flying northward with mangoes and papayas for American palates, others will be flying southward with women's dresses, fresh frozen foods, phonograph records and machinery parts. Here is the comment of a phonograph record distributor in one Latin American country. By means of air express, he says, he can obtain a very rapid turnover of his stock and a reduction in his stock by always having the means of rapidly replenishing any records required. Total sales, he estimates, can be increased 50 per cent through air express.

Brazilian ocelot and Argentine mountain cat skins will be flying northward to be cured and dressed, while the latest type of platinum mink is being flown to the owner of a large estancia in Uraguay. Sponges collected at the ports in Cuba can be taken directly by plane from those ports to the distribution centers in the United States in the same plane carrying cigars and smoking tobacco.

Among the items now carried by air express that are expected to move in much larger volume as rates are reduced are baby chicks, biologicals (serums) and medicines, currency, papers, precious stones, flowers, newsreels, magazines, newspapers, optical goods, electrotypes, repair and replacement machinery parts, samples, women's wear, stockings, laces and works of art.

Probable imports in increasing amounts by air will be amateur film for developing, cigars and tobacco, clothing from Europe, essential oils, fresh foods, leather goods, Panama hats, raw furs, sponges, tropical fish and butterflies, watches and watch parts. An increasing air export trade in the following items is expected to develop: auto repair parts, dressed furs, fresh frozen foods, jewelry (both real and novelty), machinery and parts, optical goods, fountain pens, phonograph records, photographic supplies and films, seeds, yeast and ornaments and notions.

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Legal Notes on Air Transportation

By George Boochever, L.L.B.
A Member of the New York Bar

THE arrival in the world of industry of air transportation has brought about the introduction in 1943 of approximately 1,000 bills in the Legislatures of many of our states. Most of the bills failed of passage, but more than 230 were adopted and are now laws.

Here, briefly, is a description of some of this legislation.

With few exceptions, the provisions of the enactments apply to the broad, general uses of airplanes, whether for private or commercial purposes. The exceptions were those specifically applicable to the acquisition, ownership and operation of airplanes for commercial purposes by air carriers, or by those engaged in such activities as "crop dusting," "aerial photographs," or "skywriting." It might be mentioned in passing that Connecticut passed the first State Aeronautics Laws in 1911. They dealt with the fundamental aspects of aviation, such as the particular powers, duties and activities entrusted to state administrative officers or agencies, authority delegated to municipalities and local divisions of the state, or to special municipal corporations, expressly created to deal with air transportation of one or more adjoining political sub-divisions.

The intra-state aspects of aviation are, obviously, matters for State regulation and each state is proceeding, independently, to put into effect such laws as it considers proper, to deal with air activities.

The multitude of bills introduced and passed, immediately suggests the desirability of uniform legislation throughout the Nation, just as has been found desirable and has been accomplished, to a greater or lesser extent, in many other fields. The lack of uniformity can be very embarrassing and create much confusion. That proved to be the case in even such an elementary activity as Negotiable Instruments. After many years of effort, the uniform Negotiable Instrument Law has been brought into existence, which has almost universal application. Until that was brought about, commercial activities which involved negotiable instruments, were not at all certain of uniform treatment throughout the various states. The same is true of uniform bills of lading and a number of other fields, where it has been found to be desirable to have uniform legislation by reason of the fact that businessmen in one state were proceeding in exactly the same manner as in other states, and the absence of certainty created many unnecessary difficulties.

It might be interesting to mention some of the subjects covered by these enactments. In addition to general regulatory provisions for commercial aviation, the following have been subjects of legislation:

Airports, Airport Zoning, Flight Strips. Co-operation between the Federal Government and a State in the construction and maintenance of aeroplane landing fields, paralleling highways, which has been urged by the Public Roads Administration, and has resulted in legislation usually based upon the Model Act advocated by the Administration.

Taxes on planes and on gasoline and oil consumed by aeroplane motors; Registration and license fees; Research and planning; Aeronautical education.

In brief, as usual, the law always follows activities, which, as they develop, require rules for the conduct of the businesses involved. Aeronautical Law follows the same pattern and we may look forward to a steady stream of legislation requiring interpretation by the courts of their legal effect. In addition, there is bound to be created a whole body of Aeronautical Law, which will involve considerations which were never dreamt of by the legal authorities of previous generations. When Blackstone, in his famous "Commentaries," formulated the rule that the ownership of land entitled the proprietor to everything above the surface to the highest heavens and as far below as could be reached, he had in mind, overhanging eaves which represented encroachments on the land of an adjoining proprietor and similar situations. He never had any notion of calling it a trespass, when an aeroplane travelled in the stratosphere, thirty thousand feet above the earth.

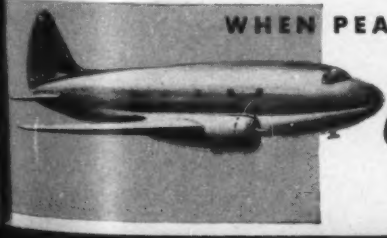
Thanks to Air Commerce

FURS FROM THE FROZEN NORTH WILL FLY TO MARKET

• Today, to reach the established carriers to world markets, furs must be tediously transported either by dog sled or on the trapper's own back.

Tomorrow, great freight planes will land on frozen tundras of the far North, gather their loads of precious pelts, and fly them to a central market. Here, the world's fur buyers will assemble, bid for the pelts they desire, and fly them to consumer markets.

In this and every phase of future air cargo development, Curtiss Commandos will play a major role. Their economy, capacity and dependability will commend them to transport and cargo line operators. LOOK TO THE SKY, AMERICA! Curtiss-Wright Corporation, Airplane Division; Buffalo, Columbus, St. Louis, Louisville.



WHEN PEACE COMES

Curtiss Commandos

WILL SPEED COMMERCE

Douglas Skymaster With Impressive War Record To Serve Peacetime Commerce

Plane Carries Cargo, United Nations' Officials With Like Efficiency Over Air Routes

ULTIMATE proof of the dependability of air transportation was given the world public in November of last year when ten Douglas C-54s successfully completed their assignment of conveying President Roosevelt and his staff of some 250 advisors to the historic Teheran conference. At the same time that these four-engined land transports were winging their way eastward over Africa with the American delegation, other Skymasters were flying westward from India with Generalissimo Chiang Kai Shek.

Here was half of the leadership of the entire United Nations' war effort in the air at practically the same time. Any accidents might have had the gravest consequences. But accidents were not anticipated. These planes had flown this same route routinely time and time again, and had even carried many of the personages comprising the two groups. They not only made the conference possible from the point of view of time, but they were reckoned to be six times as safe as ocean surface vessels.

Not only did they travel out of range of enemy submarines, but there was at least one case on record where a C-54 had out-run an attacking German fighter.

If the global possibilities and the safety of air transportation were still in question before the Teheran conference, there could no longer be a doubt in the public mind following that historic meeting.

This transport, which has advanced commercial aviation a whole decade since Pearl Harbor, started leaving the Douglas assembly lines four months after Pearl Harbor. There had been a question in the official mind in Washington as to whether the craft should be completed, or whether Douglas should concentrate on its already established bomber lines; but once the Skymasters had an opportunity to demonstrate their performance, the Army ordered them wholesale. A $27,000,000 government plant was built in Chicago, and the backlog was quickly run up to some $350,000,000.

Greater Range, Speed

The C-54 had not only twice the range and 25% more speed than the DC-3, but it was capable of carrying normally four times the load permitted the older plane under CAA regulations.

On its first Atlantic crossing it flew over Ireland eight hours after taking off from Newfoundland, and on its maiden trip from San Francisco to Brisbane, carrying a full load of airplane parts, it established a new record of thirty-five hours flying time and thirty-nine hours elapsed time.

Eighteen months after its test flight it was being operated on daily scheduled service across the Atlantic and the Pacific by four major domestic airlines for the Army, and was being flown to all quarters of the globe by the Air Transport Command and the Naval Air Transport Service.

According to a recent statement by Pan American, this transport is sole equipment on her Cannonball Express which links

Florida and India by 3½ day scheduled service. It not only takes off on split-second schedule, rain or shine, but it starts its return trip home before its engines have cooled. It is averaging an eleven hours of flight daily on this service, equalling the high average established by the DC-3 on domestic lines.

In the Pacific, it is United Airlines which is flying the Skymaster daily to Australia and New Guinea, a schedule which requires forty-four hours. On this route, it carries normally 26 passengers and 6,000 pounds of priority material, but is capable of handling a greater load in an emergency.

Acknowledgment of the C-54s high standard of performance was contained in a recent statement issued by officials of six major airlines recognizing it as a post-war commercial airline transport—the first, and to date, the only plane in the world to receive this distinction.

New Air Routes

In its job of shortening war lines throughout the world, this plane is establishing new air routes which it will continue to fly when peace is finally declared. Just as it is today flying ammunition from the home front to all quarters of the globe and returning loaded with high priority materials such as tungsten, mica, quartz, beryl, etc., all urgently needed in our war effort, tomorrow it will be helping to distribute the products of the world between different nations and peoples.

And just as it is now flying such important personages as President Roosevelt, General George C. Marshall, Secretaries Hull, Forrestal, Stimson and Morgenthau, General Giraud, Madame Chiang, Queen Wilhelmina and the Crown Prince of Norway, it will in the post-war period be transporting our diplomats, businessmen and tourists on their international travels.

Withougt exception, its pilots, whether airline, Army or Navy, recognize it as being the easiest plane in the world to fly. The statement of Captain M. P. O'Leary, veteran ATC pilot, published in War Department Special Employe Publication Release 2-C-870 is typical. "With the C-54," he states, "the ship handles so easily that the pilot comes out none the worse for wear ——. On a smooth-flying stable ship, like the C-54, instruments make our job comparatively simple. Equally important are the automatic pilots, which we use a great deal on over-water hops. I have used it for as long as fourteen hours at a stretch."

Research Costs High

Being the pioneer effort in super-transports, the C-54, represents probably the most exhaustive and expensive series of prewar experiments in transport aviation. Total costs approximated $8,000,000.

Revolutionary progress in aerodynamics and engine construction, which paralleled the final construction phases of the prototype, resulted in a decision to completely redesign the craft. On the basis of Douglas engineering experience and plane performance, five of the big domestic airlines contracted for 61 of the planes from the blueprints.

Engineering and tooling had been completed and actual production on the first nine planes was well advanced when further modifications were made to accord with the specifications drawn up by the Army, which had taken them over for use as troop transports and cargo carriers.

With millions of cargo-carrying flight miles to its credit under all types of operating and weather conditions, only three C-54s had been lost at the end of the second year of war. One apparently was sabotaged, a photographic plane crashed into the tail of a second one, and a third was lost by the inept handling of an inexperienced ground crew after it had made a nonfatal crash on takeoff from a foreign port. As a result, Douglas Aircraft and the government are receiving constant requests by United Nations' governments and both foreign and domestic airlines for these planes; but all of the current and rapidly accelerating deliveries of the C-54 are going to the U. S. Army and Navy for the job of shortening the battle lines we have thrown about the Axis powers, and thus of shortening the war.

When that job is done, however, C-54s or DC-4s, as they will then be called, will go about the task for which they were originally designed—promoting world commerce and bring world travel within the means of the average man, thus helping to create international prosperity and universal understanding.

IT'S AN *Air* WORLD

(*Trade Mark*)

By L. A. GOLDSMITH, *Economic Analyst,* AIR TRANSPORTATION

THE American Legion meeting in Washington on April 30 issued one of its first statements on aviation and air transportation in the post-war world. The Aeronautics Commission of the Legion proposed that as part of the United States post-war program for Air Transportation —"a fleet of rigid lighter-than-air dirigibles should be developed, for the purpose of transporting both passengers and cargo."

Highlight Trends for Future Air Traffic at Home and Abroad

It is particularly significant to have the American Legion make any statement in regard to aviation and air transportation. With so many members of the armed services getting their first hand experience in the air as pilots, bombardiers, navigators or passengers, The American Legion will undoubtedly have a forceful effect on aviation *thinking* and *doing* in the post-war world. The returned veterans will be air-minded potential customers for air transportation in the passenger and cargo fields.

Aviation and Air Transportation permeates the thoughts of our men, even in the midst of their war assignments and this is evidenced by the fact that plane manufacturers have received many requests for agency representations in foreign countries, after the war. These business inquiries have come not only from the soldiers at various fronts, but also from some of our boys who are today prisoners of war—showing that *"It's An Air World"* even in a war prison camp.

A Complete World Airway operated by the United States Army Airways Communications System is a forerunner of what is in store for the United States and its world commercial airways when peace is declared. In the meantime the Army has shown the way. This Army Airways System, known as the AACS, operates 1000 stations around the world. And if the Army can do that today—the commercial companies surely can do it tomorrow—provided it is practicable and profitable. Of course, under war conditions the Army flies where it has to, irrespective of cost, or profit and loss accounts. Unfortunately the loss of good men's lives and good money saved and accumulated by the American people is inevitable in a World War. But out of this welter of waste and agony, there will be salvaged something—those airway routes of the world, which perhaps no private company nor combination of companies could have developed for decades to come.

On the credit side of death and destruction caused by the war, American Aviation and Air Transportation will have obtained a head start in world air routes. The gains of war will have its cumulative results for the ways of peace. If anyone wants to get the whole story of this seemingly fantastic but true tale, read *Colliers* Magazine for April 8—the article called *"The Golden Sky Hook"* by Jim Bishop. The last link in this world airway was completed that week when the route from India to Australia was inaugurated.

"THE nation with the best reconnaissance photography will win the next war." So said German General von Fritsch in 1938. For once a German spoke the truth. He appears to have been right too, because the United States has an overwhelming preponderance of bigger and better aerial photographic equipment over the Axis. So keenly does our high command appreciate the value of aerial photography, that every potential combat area has been photographed.

Aerial Photographers Helping To Win the War and Creating Navigational Safety for Peace

Since Pearl Harbor more than 5 million square miles of areas have been mapped. Some of these combat area maps are detailed beyond anything the layman is familiar with.

Some people may ask what has aerial photography in war to do with the practical side of air transportation in the commercial field. The answer is very much—and most important. All this cumulative knowledge of combat aerial reconnaissance gives us invaluable information and experience which can be drawn upon for the promotion of air transport routes in far away places when prosaic commercial cargo, and passenger planes will fly on regular schedules, without need for priorities or irksome restrictions.

Commercial flight routes have to be surveyed with just as much meticulous care and attention to detail as that manifested by combat reconnaissance and mapping flights. In this way the geographical hazards of previously unknown and uncharted land, sea and air conditions are surveyed and mapped for regular air transportation.

Aerial cameras are also used for many kinds of civilian needs such as geological surveys, and engineering surveys for utility companies, highway road construction, and innumerable other tasks. Eighty-five per cent of the United States was mapped in this way during the years between 1934 and 1940—most of these aerial surveys were done by Fairchild Aero Surveys Inc. The knowledge and experience obtained through the exigencies of war will be priceless when they can be utilized and applied to civilian developments in post-war years.

Aerial Reconnaissance Rarely Makes Headlines

BECAUSE very little publicity has been given to aerial reconnaissance in the headlines, few people realize how extensive this phase of war in the air has become. It has recently been estimated that 80 per cent of all intelligence relating to Axis war activities has been obtained via aerial photography. The enemy's ingenuity is taxed to the utmost to keep any major secret out of the United Nations' darkrooms—where light is thrown on the so-called hidden aspects of the enemy's strategy. Even darkness no longer gives concealment. The Japanese learned this to their sorrow when General MacArthur's airmen effectively used photographs taken with the Fairchild K. 19 *night* camera. By means of these reconnaissance photographs our airmen were able to smash the Japs' supply line, north of Port Moresby. Special filters and emulsions have "broken" camouflage of every kind. Photo interpreters have become so expert that they can actually determine what a factory produces, by studying the pictures showing its smoke, its traffic, its stockpiles and its scrap.

It was not luck when our bombers showed such accuracy in bombing military targets in Rome, and yet were able to avoid damage to religious and historical structures. That was due to minute data obtained through photo interpretations gathered by our flying photographers. Aerial photograpy is definitely playing a decisive role in World War II on all fronts.

Today's Aerial Gun Camera and Yesterday's Blood & Thunder Movie

A LITTLE cigar box sized motion picture camera is the world famous Fairchild machine gun camera. 16mm. motion pictures made by this gun camera substantiate the reports of enemy planes shot down by our air force in all theatres of war. The gun camera operates simultaneously with the firing of the plane's gun. The camera is so mounted that its lens points in the same direction as the plane's machine gun, and is focused on the point where bullets from the guns strike their target. When the gun stops firing, *the gun camera continues to operate for 3 seconds longer in order to photograph the result of the last series of bullets speeding towards their target.* This is accomplished by a timer called the "over-run" device. Often the last bullet fired is the decisive one, and the "over-run" operation of the camera insures an accurate account of every bullet. These gun camera motion pictures in actual combat enable our Army and Navy to obtain a precise account of enemy planes shot down in battle. When it is announced that our air forces shot down so many planes, the fact is proved by the gun camera's pictures showing the actual destruction of the enemy aircraft.

There is an interesting story back of the development of gun cameras. A few Brazilian government officials indirectly influenced the design and principles of the present advanced type of camera. Back in 1932 some of these Brazilian officials had chanced to see a Wallace

Beery movie, "Hell Divers," in which U. S. Navy gunners were shown using a gun camera in training. The Brazilian Government was so impressed with the possibilities of this gun camera that they immediately instructed a Brazilian Purchasing Mission then visiting this country, to call upon the Fairchild Camera and Instrument Corporation and purchase gun cameras for the Brazilian air force. But at that time the machine gun camera pictured in "Hell's Divers" was restricted for the sole use of the U. S. Navy. This made it necessary for the Fairchild Company to create a new and independent camera development for the Brazilians. A Fairchild engineer, John P. Gaty, set about to design a new gun camera. It was completed within 60 days, and definitely influenced the future development of the U. S. Army and Navy standard equipment.

Battle of the Coral Sea Highlighted Importance of Aerial Photography to War

BEFORE the battle of the Coral Sea, neither the Army nor the Navy fully realized the possibilities of aerial photography. It was fortunate that the Fairchild Camera and Instrument Corporation, for years the largest builder of aerial cameras, had pushed forward the development of advanced equipment. They had been aided in this foresight by a small group of officers in each service, who had realized what could and should be done in order to be ready when the need arose.

The battle of the Coral Sea was precipitated when we attempted to stop the Jap drive towards Australia. Major fighting ships had to be operated at high speeds; sometimes in blinding tropical downpours—at night without running lights. These ships were in close proximity to islands and reefs, whose exact location were not accurately known. Maps suitable for controlling artillery fire, and group troop movements, or for use in landing operations on such remote islands as Guadalcanal simply did not exist.

Hurried Call to Washington For Aerial Photographers and Photo Interpretation Units

A HURRIED call was sent to Washington. They responded by flying out to the combat areas, aerial photographers and photo interpretation units. After arriving at their war destination, these men literally sweated twenty hours a day in improvised jungle darkrooms. Occasional dashes to the nearest fox hole, regardless of whether films were being developed or not, did not make the job any easier. But out of this work came the charts that later helped an American battle squadron to clinch our hold on Guadalcanal. From this photographic development, the Marines were able to uphold their tradition of "having the matter well in hand" when they were shown just where the Jap airfield was located on Guadalcanal. These photos indicated the exact length and width of the runways and what kind of surfacing the Japanese were laying down. This made it possible for us to spot many gun positions, bridges and supply ships. It gave us information about the size of the Japanese forces. It enabled us to chart the channels for troopship approach and to spot the best landing points. In short it made intelligent planning possible, and gave the commanding officers invaluable information, unobtainable otherwise.

One thing has stood out like a shining light, and that is the fact that our American camera equipment has been equally as effective in sub-zero weather, as in the dampness and heat of the tropics; to say nothing of the dryness and grit of desert fighting. The camera performance on the fighting fronts has been superb. They can photograph individual railroad ties so that they are visible even when photographed at an altitude of 50,000 ft., and soldiers can be seen and vehicles typed in photos made from seven miles up!

The men who pilot these photo reconnaissance and mapping planes are in the very thick of the fighting. They gather much of the data essential to the success of the massive technical engineering operations that modern batles have become. They warn us of enemy strategy, and even with all that, as Elliott Roosevelt has said, they have "to do the job with no more protection than a jackrabbit." Nowithstanding the radar which warns the enemy of the approach of our photo flyers, and in spite of the flak and the rocket guns which seek their destruction, these magnificent airmen bring back the essential film, which *sees all—knows all—tells all!* We salute them—their courage—and their endurance.

Beech Establishes Large Credit Fund

Beech Aircraft Corporation of Wichita, Kan., has entered into a 30-month revolving credit plan with thirty-six banks in nine states to borrow $50,000,000. Under the plan, sponsored by the Fourth National Bank of Wichita, Beech may borrow from the credit fund in multiples of $1,000,000 when needed to fulfill war contracts or for use in the event of cancellation of contracts. The plan was drawn under regulation V by which the federal government guarantees up to 90 per cent of the loan.

In announcing the loan, the aircraft corporation revealed that it has a large contract from the Douglas Aircraft Company to produce major assemblies for a new type plane, in addition to its present production of advanced trainers and personnel biplanes. Beech will pay an interest rate of 3⅛ per cent on its borrowings, and ¼ of 1 per cent annually as a stand-by charge for that portion of credit not in use. The company has the privilege of terminating a part or all of the bank commitments after March 1, 1945, by giving thirty days' notice.

Sharp Gains Recorded In First '44 Quarter

Domestic airlines, in first quarter operations during the current year, registered sharp gains in revenue passenger-miles, mail pound-miles, express pound-miles and express pounds carried, Colonel Edgar S. Gorrell, president of the Air Transport Association of America, has reported.

Revenue passenger-miles during the first three months of 1944 are estimated to exceed 465,500,000, an increase of about 40 per cent over the first quarter a year ago, when a total of 331,273,751 revenue passenger-miles were reported. Mail passenger-miles are estimated at 22,500,000,000, as compared with 15,058,722,057 in the first three months of last year, a gain of about 50 per cent. Mail pounds carried rose to more than 36,000,000 in the first quarter from 23,618,983 in the like period a year ago.

Express pound-miles flown by domestic carriers in the first three months were up more than 40 per cent to 9,500,000,000, while express pounds carried increased about 51 per cent to more than 19,500,000 in last year's first quarter. These items were 6,690,096,391 and 12,882,471, respectively in the comparable 1943 period.

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Burnelli UB-14, Aviation Oddity, Serves Commerce, Allied Forces

An aeronautical stepchild, the Burnelli UB-14 is proving its versatility on TACAs Central American routes and with the Fighting French in North Africa.

One of the two planes of its kind in existence, it was built in 1935 and extensively demonstrated in this country by Clyde Pangborn and other noted pilots. Its outstanding characteristic is that its percentage of disposable load is 50 per cent of the gross weight. In an official test it attained 10,000 feet in 12 minutes and maintained altitude on one of its two motors at three-fourths throttle. It has a top speed of over 200 miles-per-hour with cruising speed over 180 miles-per-hour.

The Burnelli plane now operating is fitted as a cargo ship and is powered with two Pratt-Whitney Hornet engines of 850 horsepower each. The plane represented at the time it was built the ultimate in development of Burnelli airfoil fuselage design.

Original plans for the Burnelli aircraft now used by the Fighting French, included two Rolls Royce Kestrel XV twelve-cylinder water cooled engines totaling 1490 horsepower, which would have produced a maximum speed of 244 miles-per-hour, cruising speed of 212, landing at about 65. The plane was finally built with two 870 horsepower power plants. Early in the war it was piloted by transatlantic aviator, Jim Mollison, over Axis-controlled territory to French Equatorial Africa, 6500 miles away, where, as flagship of the Free French Forces, it has been used for liaison and as a troop transport.

After an extensive flight test made in 1936, Clyde Pangborn, internationally known aviator, had much to say about the Burnelli design: The following is from a report made at that time:

"General design places the engines ahead of the airplane where the heavy mounting provides more adequate protection in case of a forced landing. The power plants are mounted on the main structure instead of having to be carried as added weight on the wings. Propellers operate more nearly on the center line of the aircraft, thereby improving the control of the airplane when operating with a single engine."

The main landing gear in the Burnelli design is mounted directly on the load carrying fuselage, and as a result, does not distribute any direct shock to the lighter outboard wings or tail group. The landing and taxiing shock loads are transferred directly to the deep section of the body.

The fact that the body actually lifts 35 per cent of the gross weight makes it clear that the wings may be proportionately reduced in area and weight as they are relieved of part of the load including some of

the bending stresses. The lift forces peak in the center of a lifting type fuselage rather than in a non-lifting body.

Ease of inspection and maintenance is an important factor in any airplane and it is recognized that the Burnelli ship is in a class by itself in this respect. Fuel and instrument lines and engine controls are more compact and easily accessible due to the fact that they do not have to be transferred from the pilot's cockpit to outboard engine cells mounted in the wings.

An interesting development appears possible in the Burnelli design for over-water operations, in that it should be possible to create a water-tight fuselage that could function similar to a flying boat and provide adequate buoyancy for protracted flotation.

This design provides excellent passenger vision due to the high wing arrangement.

The airplane has excellent flying characteristics and from a pilot's standpoint, ranks with the best developed to date, and generally speaking, represents a distinct advance in aircraft design. Mr. Vincent Burnelli at last word is reported to be working on a larger and more improved airplane to supersede the UB-14.

10TH ANNIVERSARY OF AVIATION'S SUPER FUEL—To Wood River, Ill., a fortnight ago, came Under Secretary of War Robert P. Patterson, Mrs. James H. Doolittle and Alexander Fraser, president of the Shell Oil Company, as well as hundreds of Army and Navy and petroleum industry representatives to mark a triple celebration. Here in the shadow of Shell's new Cumene plant, celebrants opened "100 Octane Week"; marked the tenth anniversary of the first 1,000-gallon shipment of 100 octane to the Army Air Forces; and dedicated a monument over a time capsule containing the first 100-octane formula, a gallon of the original fuel, and a copy of the Shell contract with the Army Air Corps. Shown above are Under Secretary Patterson, Mrs. Doolittle and Mr. Fraser unveiling the monument over the capsule. Development of 100-octane gas, said to be blood plasma for bombers, fighter planes and PT boats, is all-important for a nation at war in the air and on the sea.

Transoceanic Record Set

American Airlines, flying more than 1,000,000 miles across the Atlantic during April, is believed to have established a record among the airlines under contract to the Air Transport Command, A. N. Kemp, president, has announced. April was the second successive month in which American Airlines exceeded the 1,000,000-mile mark for overseas flying.

The airline began transoceanic service for the ATC eighteen months ago, and since that time has completed 2,626 flights, 2,140 of which were across the Atlantic. During April, American Airlines made 222 flights over the North Atlantic and 93 across the South Atlantic.

UAL's Mail Freight Up

Approximately 11½ per cent of all air mail transported within this country during the first quarter of the present year was carried by the "flying freight cars" of United Air Lines, operating through Chicago, it was disclosed by C. P. Graddick, director of United's air cargo department. Figures for United's cargoliners showed that they operated 1,288,200 mail ton-miles in the same period.

United's cargoliner service was inaugurated from coast to coast last October. A second daily round trip between Chicago and San Francisco was added early this year in view of the initial operation's success and to accommodate peak loads of essential air mail and air express passing between Chicago and other key industrial cities of the country.

A group of important air officials of the Norwegian Government at the hangars of Pennsylvania-Central Airline. Pictured from left to right are Commander K. Ostby, Air Attache of the Norwegian Embassy; Knut Sommé, Member of the Royal Air Transport; PCA president and host, C. Bedell Monro, PCA vice-president "Slim" Carmichael; Advokat Annaeus Schjodt, Chairman of the Board of the Norges Luftçartsstyre (Royal Norway Air Transport) Captain Morten Krog, RNAF, Assistant Air Attache, and PCA Superintendent of Operations Ralph Manchester.

Seas Shipping Co. Seeks New Air Route To South African Ports

A regular scheduled air service between New York and the Union of South Africa is planned by Seas Shipping Company, Inc., which has just applied to the Civil Aeronautics Board for authority to establish a service parallel to its Robin Line surface routes between the two continents.

S. J. Maddock, vice president of the company, disclosed that the application provides for several alternate routes with co-terminals at Johannesberg and Cape Town as well as intermediate stops at San Juan, Puerto Rico; Port of Spain, Trinidad; Belem and Natal in Brazil; Ascension and/or St. Helena Island; and Walvis Bay and/or Windhoek in South West Africa.

With provisions for one flight each week in both directions—planes leaving the two terminals simultaneously—the service will include passengers, mail and cargo, and will be increased when warranted. The trip is expected to take four days, with passengers sleeping ashore each night en route.

Mr. Maddock has informed the board that Seas Shipping is currently engaged in making a survey of the problems connected with such a service, and will report their findings to the members of the board as soon as possible. The study includes the proposal of the Union Government for an international airport to be built at Johannesburg and other landing facilities at Cape Town and along the route. Efforts to develop the best type of equipment for the service are now being made by the company. The type of equipment to be used, Mr. Maddock explained, will influence the determination of route.

"While the range, speed and payload of the craft to be used are important considerations for the economical operation of the service," he continued, "the safety factors are of paramount importance and will influence our every decision. The line is in a favored position for this through the knowledge and experience acquired on traffic and operational matters, in the operation of its steamship service."

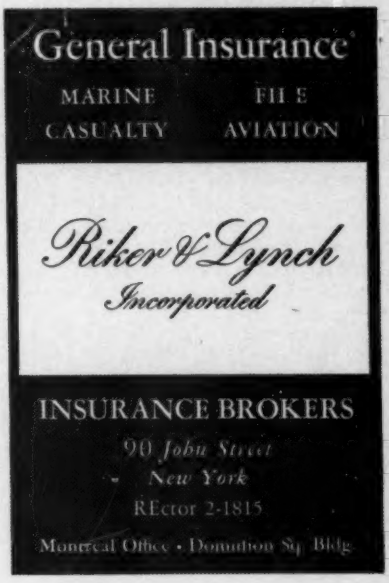
Discussing the post-war project, Mr. Maddock revealed that Seas Shipping Co. announced the Robin Line steamship service to South and East Africa nine years ago. The line was the first to announce a regular direct service to ports in Tanga and Tanganyika.

The history of the proposed post-war air service, Mr. Maddock recalled, began in 1938 when they placed orders for the building of their new ships and had to decide whether to build passenger ships, accommodating 100 passengers or freight ships, accommodating 12 passengers. Their decision was for speedy freight ships with the very finest accommodations, for 12 passengers, and for an air service to supplement the steamship service. A survey which the company conducted in 1939 indicated unusual developments in aircraft, and was responsible for a delay during which firm officials watch these developments carefully.

Additional delays followed, delays during which legalistic questions involving the rights of a steamship line to operate an air service were settled. For Mr. Maddock the question is due for a settlement by Congress which is expected to pass clarifying legislation. Admiral Emory Land, chairman of the Maritime Commission, Mr. Maddock continued, has gone on record favoring air services operated by steamship lines to meet foreign competition. The House Merchant Marine Committee has indicated their concurrence and the Senate Commerce Committee is giving the matter considerable study.

Acme Overseas Express Opens Downtown N. Y. Branch

The opening of a new downtown receiving station for express-air service on through airway bills to Havana, Cuba, has just been announced by Acme Overseas Express of 88 Lexington Avenue, New York City. The branch office is at 59 Pearl Street, c/o Rosenblatt's Express, New York City.



U. S., States Should Share Postwar Airports Costs, Believes CAA's Stanton

A proposal that the federal and state governments build a huge postwar civil aviation system as partners, along the lines worked out in creating the national highway system, was made last month by Charles I. Stanton, Civil Aeronautics Administrator.

Declaring that if new airports are not to create traffic tangles, they must be built in accordance with a comprehensive national plan, Stanton explained:

"This is not to say airport building must be the exclusive domain of the federal government. The CAA is not making a bid for bureaucratic aggrandizement."

The CA Administrator spoke at the air cargo luncheon sponsored recently by the Detroit Board of Commerce and Wayne University. [*See "Food Will Fly"—Pages 15, 18 and 22—April 1944,* AIR TRANSPORTATION.]

Stanton, in explaining his proposal for bringing into existence the thousands of airports and airport facilities projected for handling the vastly increased air traffic of postwar years, asserted that "if the President and Congress authorize a federal-aid airport program, funds can be apportioned to the states by the CAA on the basis of some accepted formula."

"As in the federal highway system," he continued, "each state would have to match a specified percentage of its quota of federal funds. Airport improvement and construction projects would be selected and carried out by the state's own aviation agency. Only projects fitting the national plan would be eligible for federal aid."

Stanton revealed that the CAA, in cooperation with state and local agencies, has already begun studies "leading toward preparation of a systematic plan for airports."

"Airplanes move so fast, and there are so many of them even now, that we cannot with safety plan even the smallest airport unless we take the broadest view of the sky traffic involved in a wide surrounding area," he pointed out.

Reviewing the Authority's work in recent years, Stanton said the CAA had been authorized to spend 400 million dollars on airfields "certified as necessary to national defense." In a little more than three years, he continued, the CAA program "has brought about the construction or substantial improvement of 519 airports" and "increased the number of airports suitable for airline operation from 94 at the end of 1940 to 1,085 at the end of 1943."

The nation now has about 3,000 airports, he said, and added the prediction that air traffic of the early postwar years would require about 6,000 by 1950.

Air Cargo Shipments To Rise After War

Sharp increases in the use of airplanes for cargo shipments, a rise in domestic passenger travel and regular trans-oceanic service for passengers in the post-war period are a certainty, according to a study appearing in the current issue of the Index, published quarterly by the New York Trust Company.

Discussing freight and express service, the bank observes:

"Air transportation has brought about a new pattern of economic life and its effect is destined to be felt in every line of business. Markets will be enlarged and substantial changes in buying habits and styles are bound to result. Since odd items can be secured overnight by air, inventories in local warehouses can be reduced and certain raw materials now shipped in the unfinished state can be processed near their point of origin and transported in a finished condition. Perishable foodstuffs, which in many instances reach only a limited market, can tap a vastly enlarged market.

"In the aggregate, these shipments of perishables, of semi-finished goods, of inventory fill-ins, of luxury items and merchandise of an emergency character should provide a substantial volume of air cargo. New methods of packaging cargo can also be expected. They should provide important savings in time and costs and will profoundly affect the decisions of shippers. 'Research in the field of light, tough packaging has already turned each of our cargo carriers into the equivalent of several craft,' says the Office of War Information. 'Implications for post-war airborne commerce are enormous.'

"Heavy goods will generally continue to move by surface carriers, where available. However, the railroads may seek legislation to permit them to employ the air cargo plane for feederline purposes, just as the steam carriers have, in many instances, acquired bus and truck lines incidental to their operation. Under such an arrangement, planes could be used to transport seasonal type goods and light cargo to important rail centers where the merchandise could be assembled in carload lots and moved to its ultimate destination."

Canada Plans Air Route

Canadian plans for an air route to Central and South America by way of Bermuda, Jamaica and Balboa, avoiding the United States have just been transmitted to Canadian, British and Bermudian legislators by Arthur Slaght, member of the Canadian Parliament. Mr. Slaght said Canada planned an increase in maritime trade after the war.

Role of Air Commerce Studied by Port Authority

The current and future importance of the Port of New York as an area of terminal handling of air commerce is emphasized in the twenty-third annual report of the Port of New York Authority covering the agency's work during 1943.

The report reveals that studies are being made of the adequacy of present and proposed airports to serve the future air-borne commerce of the district, and adds that the results of these studies are already being utilized as a basis for support of applications for new and necessary airline services from the Port of New York.

"It is already evident," the report declares, "that major air routes must make their principal terminals in this district, which taps the nation's largest reservoir of cargo and passengers. Residents of the Port District and its tributary areas have in the past constituted the preponderance of American travelers abroad, and will doubtless be the chief users of the overseas air services of the future.

"Because of the undoubted importance of air commerce in the future, it is essential not only that the district be provided with adequate airports, but also that efficient terminal methods be provided for the swift and ready interchange of cargo and passengers between air, rail, ship and motortruck carriers."

The report showed graphically that two-thirds of all Americans traveling overseas live within 250 miles of the Port of New York. Of this total, 19 per cent come from the northeastern states; 41 per cent from New York State; and 7 per cent from New Jersey. The remainder of the country, the report indicated, furnishes 33 per cent. The Port District here, it added, now accounts for 25 per cent of all domestic air cargo.

TWA Expands

Transcontinental & Western Air, Inc. has acquired a 20 per cent interest in Hawaiian Airlines, Ltd. for more than $300,000, according to a joint announcement made recently by Jack Frye, president of TWA, and Stanley C. Kennedy, president of Hawaiian Airlines. The Hawaiian firm currently has an application pending before the CAB for a route between Honolulu and the United States mainland. Mr. Frye disclosed that TWA is withdrawing an application for a certificated route from California to Hawaii.

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Overseas Air Cargo Seen Assured In Decade After War

The airplane, as a transoceanic carrier, is on the verge of general acceptance, William A. M. Burden, Assistant Secretary of Commerce, told the Foreign Commerce Club of New York at its third annual Airline Night dinner on May 17 in the Hotel Astor.

Mr. Burden said that airplanes which will be in service from five to ten years after the war are already under construction, and added that the transoceanic planes now being designed will be in first line service at least until 1952 and maybe much longer. He predicted that the post-war planes will be capable of keeping a schedule from London to New York of between twelve and fifteen hours and in the opposite direction of between eighteen and twenty-one hours. They will carry between forty and sixty passengers in the more difficult New York to London direction.

Discussing the field of cargo transport, Mr. Burden said the lowest ton-mile air freight rates over the North Atlantic in the first five years after the war are expected to be thirty cents, or sixty times the present ocean steamship rates. Taking the larger figure, he added, it would cost about $10 to send a 20-pound package from London to New York, and to send a ton of goods would cost $1,000. These rates, he contended, are too high to cut seriously into steamship transportation.

In spite of any agreement that may be reached on commercial air transit, Mr. Burden declared, it seems probable that arrangements for the picking up and discharge of traffic will continue to be negotiated between governments or between governments and companies.

However, Mr. Burden urged, the principle must be established that nations shall not prevent new international service from starting merely because they are not themselves prepared to run reciprocal services. Future international agreements, he continued, should not fix ceilings on the number of schedules that can be flown each week or each year.

"If we are to have sense in transportation," he told his audience, "we must relax the countless restrictions which slowed the development of international airlines before the war. We must accept the fact that there will be competition in air transport as there is in all forms of international business. We must regulate it, insofar as regulation is necessary, as transport enterprise.

It is to the interest of the nations of the world to throw their weight toward the commercialization of air transportation operations.

Neither the United States nor any other nation which allows its air transport to be carried out by private enterprise need fear that it will be overwhelmed by foreign government airlines. History is not replete with instances of forceful administration or of rapid technical progress where government monopolies have existed; and those countries which place prestige above efficiency may suffer competitively as a result. If we throw our weight in the international scale for the organization of air transport along commercial lines, we can have confidence that the young Americans who make air transport their life work will have the greatest possible opportunity to carve out careers for themselves and to build up a new industry which will be of tremendous world significance."

Harper McNeill, district traffic manager of Trans-Canada Airlines, was chairman of the committee on arrangements. The committee included the following nine airlines serving the Port of New York: Trans-Canada Airlines, American Airlines, American Export Lines, Colonial Airways, Eastern Airlines, Pan American-Grace Airways, Pan American Airways, Transcontinental & Western Air and United Air Lines. Cooperating with Mr. McNeill was John F. Budd, chairman of the Foreign Commerce Club Speaker's Committee.

Kaiser to Build 5,000 Airports

Henry J. Kaiser, fabulous ship and airplane builder, has disclosed plans for the construction and operation of 5,000 airports and landing strips along the highways of the country. Speaking to stockholders of the Brewster Aeronautical Corporation at the firm's annual meeting in Long Island City, Queens, Mr. Kaiser asserted:

"Under my plan there will be an airport every thirty miles, and a landing strip every fifteen miles. The airports and landing strips will be completed within six months after construction begins. It is my hope that arrangements can be made to put this plan into effect promptly after the invasion has been carried out and victory assured."

Mr. Kaiser, who retired as chairman and president of the Brewster Corporation, told the company's stockholders that if no new military or naval aircraft business is forthcoming the new management might prepare to design and build personal planes for civilians and even take orders now for delivery after the war.

In connection with plans for the construction of the airports, Mr. Kaiser said the program would be carried out by a non-profit corporation expressly to stimulate and encourage air travel.

Annual Reports Show '43 Gains For Eight Domestic Airlines

The airlines of the United States, with valuable experience gained by flying overseas for the transport services of the Army and Navy, have learned at home how to carry roughly twice their prewar business with about half their prewar number of planes at a modest, but satisfactory profit.

This is the comment of the Air Transport Association of America on a tabulation covering the annual reports of eight domestic companies published as of Dec. 31, 1943. The tabulation does not cover the operations of Pan American Airways, American Export Airlines or twelve other lines whose reports were as of June 30, 1943. The data of these airlines, it was said, would affect domestic totals by not more than 5 to 10 per cent and that in a favorable sense.

"With non-governmental revenue (passenger and freight) at $84,300,000 and governmental revenue (mail) at only $20,300,000 for 1943 these airlines, like almost all others, are now a far cry from the days of mail 'subsidies,' the Association reveals. "As against payments of some $20,000,000 by the postoffice to the airlines, the postoffice receives approximately $60,000,000 from the sale of airmail stamps, a gross profit to the government of 300 per cent on the air operation.

"This margin to the postoffice is now largely to be increased by the increase of air mail from a six to an eight-cent basis and the consistent reduction of air mail rates of compensation to the lines by the C A B. The rate is now 0.3 mill per pound in general. Both passenger and express rates have also been reduced during the year though both categories show increased revenues, through greater patronage.

"Fear has already been expressed, however, that the reduction in all three rate structures, passenger, mail and express, will put even some of the strongest lines into some red months during the coming year. If the stronger companies face such a contingency it will be even more serious for the smaller companies serving less densely populated territories. In view of the over-all mail picture so favorable to the Postoffice Department, however, it is considered that a strong case could be made before the Civil Aeronautics Board to the effect that mail rates had been shaved too closely.

"Another solution to the difficulty lies in the return of more transport planes from military duty to the airlines, so that they can accept more of the traffic now turned away from their reservation counters and mail and express platforms.'

Plane Market Estimated

E. Earl Lothrop, manager of the research department of the Aeronautical Chamber of Commerce, estimates that the total plane market in the United States in the five years after the war ends will call for 2,925 commercial passenger craft, 2,875 cargo planes and a total of 30,000 military planes. Abstaining from predicting personal aircraft sales during that period, Mr. Lothrop explained:

"The most expansible market for the plane manufacturer is the private flying field. However, only 9,500 new private planes can be expected during the two years following the war's end, including a doubtful total of 2,500 helicopters."

More definite about airline requirements, Mr. Lothrop said 1,700 new transports, valued at $512,000,000, will be required within two years after victory. Of these, 100 will be for United States international lines and the same number more for export.

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***WARTIME EXPEDITER**—Cargo-loading problems brought on by huge increases in cargo since the beginning of the war have been made easy by Pennsylvania-Central Airlines' development of this "Cargoveyer"—a new conveyer which accelerates considerably the time used in loading and unloading planes so that vital wartime schedules may be maintained.*

Giant Transport Sets Mark

The 40-ton transport, Constellation, streaked across the skies last month covering 2,308 miles from Burbank, Calif., to Washington in 6 hours, 56 minutes and 15 seconds, to set a new transcontinental non-stop speed record. At the controls of the silver-winged transport plane was Howard Hughes, who set the previous record. Jack Frye, president of Transcontinental & Western Air, Inc., for which the plane was built by Lockheed, made the flight as co-pilot. Unofficially, the super-ship averaged 332.67 miles an hour in its record-breaking trip. The plane is being turned over to the Army Transport Command.

Boston a Focus for Future Air Travel

Boston has been suggested as the logical central terminal for all air traffic between New England and transoceanic areas, both Atlantic and Pacific, by Oswald Ryan, senior member of the Civil Aeronautics Board.

Speaking at a meeting of the Aeronautic Association of Boston on May 22, Mr. Ryan said, "Boston should be the terminal of 50,000 transatlantic plane passengers annually after the war." The CAB official, a member of the board that will pass on petitions for airline routes between Boston and New York and Boston and the West now pending, warned that air transportation was a national problem and "requires a single, unified national regulation."

CAA Tests Cargo Planes

Two cargo-transport model airplanes of the Army Air Forces are now undergoing tests by the Civil Aeronautics Administration to determine whether they will be able to go into immediate commercial transport service after the war. Results of the tests have not yet been made public. It is expected that the CAA will also test other Army planes and inform manufacturers, on the basis of test results, the changes that will be necessary before they can be operated commercially. The airlines will know too from these tests what planes they can purchase for immediate use.

La Guardia Urges Air Pacts with S. A.

Mayor LaGuardia of New York City has called on the nations of the Western Hemisphere to "get the jump on the world by a reciprocal arrangement for air transportation" after the war.

The Mayor, an ardent advocate of closer cultural and commercial ties with Latin America, told the first plenary session of the Inter-American Development Commission at its recent convention at the Waldorf-Astoria that a comprehensive agreement on inter-American transportation is one of four major problems currently facing that body. Air transport, he said, has cut travel distances between Latin America and the United States from weeks to a few hours and that our big bombers can be used after the war to carry freight to the nations of the south. There still would be need for sea transportation, he added, but "air transportation will be of paramount importance."

Feeder Lines Organize

The promotion of new and improved airports as part of a general plan to assure development of local airline service is a cardinal principle of the newly-organized Feeder Airlines Association, the National Aeronautic Association asserts. The group, which seeks also to prevent monopoly in air transportation, has elected Harry Stringer, vice president of All American Aviation, Inc., as chairman of its organization committee. Sixteen present and prospective feeder operators now enrolled come from Tennessee, North and South Carolina, Delaware, Georgia, California, Illinois, the District of Columbia, Virginia, Iowa, Wisconsin, Washington, Indiana and New Jersey. Headquarters have been established at 1029 Vermont Avenue, Washington, D. C.

Indian Aviation Plans

Provisions for the establishment of an Air Transportation Board in India and a ban on air transport services not licensed by the board are included in a bill amending the Indian Aircraft Act of 1934, which has passed the Legislative Assembly, the Department of Commerce has revealed.

Among the plans for the post-war development of civil aviation are an increase to 10,500 miles in air route mileage, and an anticipated increase of 1400 per cent in ton mileage flown. Daily schedules on main trunk lines, linking of lines to join the main trunk liens, and extension of main lines to adjacent countries are also included in the plans.

International services under study by the government involve the extension of domestic lines to Rangoon, Colombo, Kabul, Chungking and possibly cities on the Persian Gulf.

Air Roads Viewed As Private Flying Aids

A national system of "air roads" is the key to the development of large-scale private flying after the war, in the opinion of William A. Mara, aviation authority. Writing in *Plane Talk*, publication of Consolidated Vultee Aircraft Corporation, of which he is an official, Mr. Mara advocates 20,000 new strips placed ten miles apart in a system of squares which cover the country.

"Inherently, the air is a limitless road which runs directly from here to everywhere," he declares. "But it will be comparatively useless for civilian pilots unless we have many more plots of ground available for their take-offs and landings."

Mr. Mara estimates the cost of the project at $90,000,000, and describes an air strip as a level piece of grassy land 150 to 200 feet wide, and 1,500 to 2,000 feet in length.

"Along with the air strip," he adds, "the pilot will need a simple system of aerial markers or road signs. These will tell him where he is at any time, and so permit him to go from here to there without learning a complicated system of navigation."

Mid-Continent Board Re-elected

All members of the board of directors of Mid-Continent Airlines of Kansas City, Mo., were re-elected to office for the ensuing year. Named again to membership on the board were W. W. Howes of Washington; Theodore Law, Tulsa; Milton McGreevy and J. W. Miller, Kansas City; J. A. Zock of New York and G. D. Murdoch, Los Angeles. Mr. Zock was re-elected chairman of the board. Other officers include Mr. Miller, president; J. C. Collins, vice-president and secretary; J. A. Cunningham, vice-president, operations; C. A. Wicks, treasurer and assistant secretary; and Martha Knecht, assistant treasurer.

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AMERICAN AVIATION

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AMERICAN AVIATION ASSOCIATES, Inc.
AMERICAN BUILDING • WASHINGTON 4, D. C.

TO Robert F. Black, president of the White Motor Company, who was elected a director of the Pennsylvania Central Airlines Corporation. Mr. Black has been head of the White Motor Company since 1935. Prior to his affiliation with the White firm, he was head of the Brockway Motor Truck Corporation, and served also as vice president of the Mack organization. Mr. White is expected to bring to his new affiliation a broad background of knowledge of transportation problems and facilities, many of which can be applied to aviation. Mr. Black is also a former member of the National War Labor Board and director of the Automotive Council for War Production.

Robert F. Black

TO Frank C. Dyer, superintendent of communications for Braniff Airways at Dallas, Texas, who has been named in charge of preparations for the operation of Aerovias Braniff, S.A., a Mexican airline. In Mexico, Mr. Dyer will organize the training, installation of equipment, selection of personnel and the development of operations necessary to carry out the new program.

Joining Braniff in 1935 as communications engineer, Mr. Dyer has been with the company for nine years. He was made superintendent of communications at the Dallas base in January, 1942. Prior to joining Braniff, Mr. Dyer was employed by the Dallas School of Aviation at Love Field.

TO Mario Molina, who recently joined TACA Airways Agency, Inc., as traffic representative for the New York office.

Prior to his TACA affiliations Mr. Molina was Mexico's Consul-honorary to the Republic of Panama. Before serving in this diplomatic status he was manager of the former Transportes Aereos Mexicanos in Meridan, Yucatan, Mexico. Mr. Molina has had many years of aviation experience in both Mexico and the United States.

TO Harlan P. Hallock who has been appointed to the position of traffic supervisor in New York City for American Airlines, Inc. Hallock will have supervision over representatives of passenger traffic, cargo and publicity in New York.

Harlan P. Hallock

TO Melvin T. Brockman on his recent appointment as manager of air-truck service, air cargo department, United Air Lines. In his new capacity, Brockman will represent United on the surface transportation committee of Air Cargo, Inc.

Melvin T. Brockman

Brockman joined United a year ago as area manager for the air cargo department in Chicago. He is a graduate of LaSalle Extension University and the College of Advanced Traffic, where he currently is an instructor of a specialized course on Air Transportation. Prior to joining the airline, he was district sales manager in Chicago for the Plaza Express Co., Inc., and a director of the Business Development Section of the Central Motor Freight Association. He is on the board of directors of the Junior Traffic Club of Chicago and chairman of that organization's Air and Express Committee.

TO Sylvester J. (Spec) Roll, for the past four years General Manager of Compania de Aviacion Pan American Argentina in Buenos Aires, who has been named Assistant to the General Traffic Manager of Pan American Airways with headquarters in New York.

Mr. Roll, who since his graduation in 1923 from Georgetown University has spent most of his time abroad, is a veteran in foreign service. For two years he represented the United States as Vice Consul and Assistant Trade Commissioner in Sweden, then became connected with banking interests and moved

successively to Mexico, Paris, and later other cities in Europe.

Following several years' experience as U. S. Trade Commissioner in Colombia, Roll joined Pan American Airways in 1933 and became special representative for the company in Bogota for five years during the course of negotiations with SCADTA, the Colombian airline (later to be nationalized, renamed AVIANCA, and affiliated with Pan American).

Before becoming General Manager of Compania de Aviacion Pan American Argentina he spent two years in Venezuela and the Caribbean area as Commercial Representatives for Pan American Airways.

J. W. Barr *T. C. Sullivan*

TO Joseph M. Barr, Assistant General Manager of the Chance Vought Aircraft Division of United Aircraft Corporation, who has been named Manager of the Export Department of the Corporation. He assumed his duties early this month.

Mr. Barr joined Chance Vought Aircraft in 1932 as Assistant Auditor. After serving in various capacities with the Chance Vought and Exports divisions, he was named factory manager of Vought-Sikorsky Aircraft division in 1940. Two years later he became Assistant General Manager at Vought-Sikorsky and when the two divisions were reconstituted as Sikorsky Aircraft and Chance Vought Aircraft, he continued with the latter as Assistant General Manager.

Last winter Mr. Barr made a two-months tour of South and Central America studying at first-hand the aircraft situation in the various countries.

He was born in Joliet, Illinois, and was graduated from the Wharton School of Business Administration of the University of Pennsylvania.

The appointment of T. C. Sullivan as assistant to the President of United has also just been announced. Mr. Sullivan attended the University of California in Berkeley. After a number of years with the Wall Street News, he joined the staff of the Wall Street Journal in 1935, writing on aviation. He joined Vultee Aircraft, Inc., in 1940 as assistant to the president and secretary of the corporation.

TO Alfred B. Bennett, noted aviation expert, flyer and authority who has been appointed Director of Post-War Sales for the Aeronca Aircraft Corp., Middletown, Ohio.

Alfred B. Bennett

Bennett is a graduate of the University of Pennsylvania where he majored in economics, but his burning desire to sell airplanes consumed all else. Realizing that in order to be a good salesman one must know his product, he went to the Army's Brooks Field to learn to fly. With little more than tons of determination, in 1931 he established his own flying field near his home replete with students and a "Grasshopper" plane that was held together virtually with rubber bands, chewing gum and lots of spirit.

His energies expended in teaching, the genuine aviation enthusiast eventually proved the soundness of his theories of helping those who could barely afford to fly. In this aura of aviation horse-sense, Al Bennett has made a specialty of showing boys how to get started in aviation. His shining example was building an airport in a small town.

TO Tolbert A. Rice, assistant to the manager of the Atlantic Division, Pan American Airways, who has been named district manager for the United Kingdom and Eire, with headquarters at Pan American's offices in London.

Tolbert A. Rice

Rice, who joined Pan American in 1940, serving at Wake Island and Manilla, was airport manager at Singapore, being evacuated a few days before the British colony fell to the Japanese, January, 1942. In a series of flights across the Indian mainland, he established contact with Pan American operations that led him to the west coast of Africa. It was here that he performed a special assignment for the Atlantic Division Manager, John C. Leslie.

A graduate of the U. S. Naval Academy in 1935, Rice served as pilot in the lighter-than-air branch of the fleet.

TO Howard B. Dean, vice president of the Pan American World Airways System, who has just been appointed to the administrative charge of the company's 48,000-mile system of air transport routes in Latin America. Associated in both the manufacturing and transport phases of aviation for the past fifteen years, Mr. Dean joined the Pan American organization in 1942. As a partner in Struthers & Dean, for twenty years members of the New York Stock Exchange, he served as governor of the exchange for two terms, and as chairman of the committee of member firms.

Howard B. Dean

In his new position, Mr. Dean, who is also a vice president and director of Pan American-Grace, succeeds Evan E. Young, vice president and a director of Pan American Airways, who is retiring from active duty after fifteen years with the international airline.

Recently all American-flag air transport operation in the Latin American field was consolidated into a single division, with Wilbur R. Morrison, vice president, with headquarters at Miami, in charge of operations.

The Latin American services to date have operated some 65,000,000 miles, carried over 600,000 passengers, and have delivered nearly 65,000,000 ton-miles of mail and cargo.

TO R. C. Wright, new assistant treasurer of United Air Lines. Mr. Wright is one of the veterans of air transportation in this country, having started with the air mail service at Omaha in 1924, and having continued on with predecessor companies of United Air Lines as they took over operation of the original transcontinental airway. He is a native of Bement, Ill., and was auditor of disbursements prior to his latest promotion.

R. C. Wright

TO Hayes Dever, assistant to C. Bedell Monro, president of the Pennsylvania-Central Airlines, who has just been named secretary of the airline.

TO Lawrence H. Cooper, former director of field operations of Consolidated Vultee Aircraft Corp. at San Diego, now named manager of the Elizabeth City (N. C.) Division.

TO Captain J. Lindsay Rood, who has been appointed chief pilot, Canadian Government Trans-Atlantic Air Services, operated by Trans-Canada Air Lines. Capt. Rood, one of the T.C.A. veterans, who entered service in 1937, was born in Berwick, N. S., and educated in the public and high schools there and in Dalhousie University. He began flying in 1929 with the R.C.A.F. at Camp Borden and was later associated with the Halifax Aero Club and the Cape Breton Flying Club. Before joining T.C.A., he was with the British Airways Limited, flying the Croydon-Stockholm route.

Capt. J. L. Rood

TO G. M. Williams, senior vice-president, on his election to the board of directors of Curtiss-Wright Corp. A veteran figure in the aviation and automotive industries, Williams joined Curtiss-Wright last July after serving since 942 as assistant to the board chairman of the board of Consolidated-Vultee Aircraft Corp. on leave of absence from Russell Manufacturing Co., of which he has served as president since 1934.

TO Edward Curtis Wells, chief engineer for Boeing Aircraft Co. and "the man whose aviation engineering wizardry has been one of the major factors in the development of the four-engined plane," on being named by the Seattle Junior Chamber of Commerce as "Seattle's Young Man of the Year" and winner of the Seattle Distinguished Service Key, given annually since 1931 by the Junior C. of C.

TO James P. Dean, with United Air Lines' New York traffic office for the past 10 years, on his new post as district traffic representative at Hartford. The appointment is seen as recognition of Hartford's increasing importance as an air transportation and war production center.

TO Louis F. Czufin who joined the traffic advertising department of Pan American Airways as advertising production manager. A specialist in the mechanical phase of graphic arts processes, he succeeds Kenneth C. Gunter who has been appointed acting advertising manager.

A graduate of Columbia University and a native of Taunton, Mass., Mr. Czufin was formerly associated with Murray Breeze Associates and Street & Finney.

(Trade Mark)

6,000 Airports Seen for Post-War Air Traffic

DECLARING that expected air traffic in the early post-war years will require about 6,000 airports, or twice the present number, Charles I. Stanton, administrator of the Civil Aeronautics Administration, advises businessmen who pride themselves on being foresighted to start some "balance-sheet" thinking about airports.

Writing in the May issue of *Domestic Commerce*, monthly publication of the Department of Commerce, Mr. Stanton reveals that in communities all over the country there is evidenec of proposals for super air terminals intended to make the location in question the aviation center of the nation.

Cities today, Mr. Stanton says, do not seem to be heading for a repetition of the mistakes made in early airport development, which were largely the result of underestimating the aviation potential.

"If anything," he points out, "they are leaning toward building airports of size and cost which take very strong imagination to justify.

"We are not so much worried about possible overbuilding, however, as we are about the fact that many of us are too ready to go ahead and build without adequate attention to over-all planning."

Mr. Stanton calls attention to the complications which may arise when a community undertakes to spot half a dozen or more airfields, which a big city will have to do to accommodate private and commercial post-war traffic.

"It is evident," he adds, "that if new airports are not to create traffic tangles they must be built in accordance with comprehensive national and local planning."

Congress, in the Civil Aeronautics Acts of 1938, directed the administrator of the C.A.A. to make a nation-wide survey of airport needs. As a result of this Congress authorized a building program which ultimately totaled $400,000,000 and provided more than 500 additional modern airports. The benefit of the experience acquired by the C.A.A. on this big job is offered in states, cities, counties and other potential airport sponsors. One suggestion is that the federal government and the State governments become partners in building the nation's post-war civil airport system.

Northeast Airlines Moves to East Boston

East Boston's Logan Airport has just become the new home for the Atlantic Division terminal of Northeast Airlines. The terminal was formerly located at Presque Isle.

The move, Northeast's President Paul F. Collins believes, will facilitate consolidation of its over-ocean transport of air cargo for the Army with Northeast's commercial operations.

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International Express and Mail Tables

Express rates quoted are from U. S. international airport of departure and are based on the latest prevailing tariffs. Shippers are warned, however, that they are subject to change.

Bb—Bangor, Me.
Bro—Brownsville, Tex.
Bw—Boston, Mass.
Cg—Chicago
Cub—Cut Bank, Mont.
Ec—El Paso
Fv—Fort Worth
Gf—Grand Forks, N. D.
Lgs—Los Angeles
Mia—Miami
No—New Orleans
Nyk—New York
Sq—San Diego
Ste—Seattle

International Air Express is subject to two charges: one a charge per pound weight or measurements at carrier's option (200 cu. in. to the pound of weight), the other a charge per $100 of valuation. The two must be added on any shipment to determine the cost. Neither includes insurance, which may be purchased by the shipper from the carrier or otherwise.

Priorities: The air carriers warn all shippers that express traffic, both U. S. Government and commercial, is so heavy that no guarantee can be given that any shipment will depart on any particular plane unless it enjoys U. S. priority. Otherwise it will depart, in relation to other shipments, in the order received at the international airport used, subject to wartime limitations. Pick-up service without extra charge now is available for all international air express. For shipments forwarded via Pan American Airways, a "Shipper's Letter of Instructions" is prepared and accompanies shipment to local R.E.A. office, where the PAA Airwaybill is prepared. (On cargoes to be shipped via American Export Airlines, Inc., shippers should contact "Shipper's Service," Room 920, 25 Broadway, New York, HAnover 2-9144.)

International air carriers whose schedules and rates are included here are indicated by the letter following the symbol for the airport:

A—American Airlines.
C—Colonial Air Lines.
E—American Export Airlines.
EA—Express Aero Inter-Americano, S. A.
K—KLM-Royal Dutch Air Lines.
NE—Northeast Airlines.
NW—Northwest Airlines, Inc.
P—Pan American Airways System and affiliates.
T—Trans-Canada Air Lines.
U—United Air Lines.
W—Western Air Lines.

LATIN-AMERICA LINES

Destination	U.S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Antilla, Cuba	Mia P	.24	.17	Su,M,F,Sa	.10
Antofagasta, Chile	Mia P	1.26	.45	M,W,Th,F, Sa	.40
"	No P	1.34	.45	T,Th,F,Sa	.40
"	Bro P	1.34	.45	M,T,W,Th,Sa	.40
"	Lgs P	1.95	.45	M,T,W,F,Su	.40
Aracaju, Brazil	Mia P	1.26	.45	Su	.40
"	No P	1.71	.45	Sa	.40
"	Bro P	1.71	.45	F	.40
"	Lgs P	2.28	.60	Th	.40
Areia Branca, Brazil	Mia P	1.24	.45	T,W,Sa	.40
"	No P	1.56	.45	M,T,F	.40
"	Bro P	1.56	.45	Su,M,Th	.40
"	Lgs P	2.13	.45	Su,W,Sa	.40
Arequipa, Peru	Mia P	1.23	.45	Dly	.30
"	No P	1.26	.45	M,T,Th,F,Sa	.30
"	Bro P	1.26	.45	Dly	.30
"	Lgs P	1.93	.45	Dly	.30
Arica, Chile	Mia P	1.25	.45	M,W,Th,F,Sa	.40
"	No P	1.26	.45	T,Th,F,Sa	.40
"	Bro P	1.26	.45	M,T,W,Th,Sa	.40
"	Lgs P	1.94	.45	M,T,W,F,Su	.40
Aruba, N. W. I.	— P	via M	arac	aibo, Ven.	...
"	Mia K	.71	.45*	We,Sa	.25
Asuncion, Para	Mia P	1.73	.45	Th,Sa	.40
"	No P	1.86	.45	Tu,F	.40
"	Bro P	1.86	.45	T,Th	.40
"	Lgs P	2.43	.60	M,W	.40
Bahia, Brazil (*See Sao Salvador*)					
Balboa, Canal Zone	Mia P	.76	.35	Dly	.15
"	No P	.90	.35	M,T,Th,F,Sa	.15
"	Bro P	.90	.35	Dly	.15
"	Lgs P	1.45	.45	Dly	.15
Baracoa, Cuba	Mia P	.28	.20	Dly	.10
Barcelona, Venezuela	Mia P	.85	.35	Dly	.25
"	No P	1.17	.45	M,T,Th,F,Sa	.25
"	Bro P	1.17	.45	Dly	.25
"	Lgs P	1.78	.45	Dly	.25
Barranquilla, Columbia	Mia K	.85	.50*	Sa	.35
via Kingston	Mia P	.61	.35	Su,Tu,W,F	.35
via Balboa	Bro P	1.03	.35	Dly	.35
"	No P	1.03	.35	M,T,Th,F,Sa	.35
"	Lgs P	1.59	.35	Dly	.35
Bauru, Brazil	Mia P	1.58	.45	T,Sa	.40
"	No P	1.71	.45	M,F	.40
"	Bro P	1.71	.45	Su,Th	.40
"	Lgs P	2.28	.65	Sa,W	.40
Belem, Brazil (*See Para*)					

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Bello-Horisonte, Brazil..	Mia P	1.65	.45	T W, Th,F,Sa, Su	.40
"	No P	2.13	.45	M,T,Th,F,Sa	.35
"	Bro P	2.13	.45	M,T,W,Th,F, Su	.40
"	Lgs P	2.69	.60	M,T,W,Th, Sa, Su	.40
Bonaire, N. W. I.....	— P	via M	arac	aibo, Ven.	
"	Mia K	.75	.45*	We,Sa	.25
Buenos Aires, Argentina.	Mia P	1.56	.45	Dly	.40
"	No P	1.70	.45	M,T,Th,F,Sa	.40
"	Bro P	1.70	.45	Dly	.40
"	Lgs P	2.26	.60	Dly	.40
Cali, Col. via Balboa...	Mia P	.89	.35	Dly	.35
"	No P	1.03	.35	M,T,Th,F,Sa	.40
"	Bro P	1.03	.35	Dly	.35
"	Lgs P	1.59	.45	Dly	.35
Camaguey, Cuba.....	Mia P	.26	.20	Dly	.10
"	Mia K	0.23	.25*	We,Sa	.10
Camocim, Brazil.....	Mia P	1.22	.45	.....	.40
"	No P	.150	.45	.....	.40
"	Bro P	1.50	.45	.....	.40
"	Lgs P	2.05	.45	.....	.40
Campeche, Mexico.....	Mia P	.41	.20	Su,W,F	.10
"	No P	.41	.20	M,T,Th,F,Sa	.10
"	Bro P	.51	.35	Dly	.10
"	Lgs P	1.00	.35	Dly	.10
Campo Grande, Brazil..	Mia P	1.48	.45	T,Sa	.40
"	No P	1.61	.45	M,F	.40
"	Bro P	1.61	.45	Su,Th	.40
"	Lgs P	2.18	.45	Sa,W	.40
Canavieiras, Brazil	Mia P	1.33	.45	Su,T	.40
"	No P	1.81	.45	M,Sa	.40
"	Bro P	1.81	.45	Su,F	.40
"	Lgs P	2.38	.60	Sa,Th	.40
Caracas, Venezuela (*See La Guaira*)...					
Caravellas, Brazil.....	Mia P	1.36	.45	.....	.40
"	No P	1.85	.45	.....	.40
"	Bro P	1.85	.45	.....	.40
"	Lgs P	2.41	.60	.....	.40
Cayenne, Fr. Guiana...	Mia P	1.02	.35	Dly	.30
"	No P	1.26	.45	M,T,Th,F,Sa	.30
"	Bro P	1.26	.45	Dly	.30
"	Lgs P	1.91	.45	Dly	.30
Cayo Mambi, Cuba....	Mia P	.26	.20	Dly	.10
Chetumal, Mexico.....	Mia P	.55	.35	W,F	.10
"	No P	.55	.35	Th,Sa	.10
"	Bro P	.55	.35	Su,Th	.10
"	Lgs P	1.04	.35	W,Sa	.10
Chiclayo, Peru.....	Mia P	1.11	.45	Dly	.30
"	No P	1.19	.45	M,T,Th,F,Sa	.30
"	Bro P	1.19	.45	Dly	.30
"	Lgs P	1.81	.45	Dly	.30
Cienfuegos, Cuba.....	Mia P	.20	.17	T,W,Th,F,Su	.10
C. del Carmen, Mexico..	Mia P	.45	.20	Su,W,F	.10
"	No P	.45	.20	M,T,Th,F,Sa	.10
"	Bro P	.47	.35	Dly	.10
"	Lgs P	.94	.35	Dly	.10
Ciudad Trujillo, D. R...	Mia P	.45	.20	Dly	.10
"	Mia K	1.12	.50*	Sa	.10
Cochabamba, Bolivia...	Mia P	1.26	.45	W,Sa	.35
"	No P	1.35	.45	Tu,F	.35
"	Bro P	1.35	.45	MTh	.35
"	Lgs P	1.95	.45	Su,W	.35
Concepcion, Bolivia....	Mia P	1.31	.45	Sa	.35
"	No P	1.45	.45	F	.35
"	Bro P	1.45	.45	Th	.35
"	Lgs P	2.03	.45	W	.35
Cordoba, Argentina....	Mia P	.149	.45	Dly	.40
"	No P	1.63	.45	M,T,Th,F,Sa	.40
"	Bro P	1.63	.45	Dly	.40
"	Lgs P	2.19	.45	Dly	.40
Coro, Venezuela.....	Mia P	.74	.35	M,T,W,F,Su	.25
"	No P	1.11	.45	M,T,Th,F,Sa	.25
"	Bro P	1.11	.45	Dly	.25
"	Lgs P	1.69	.45	Dly	.25
Corumba, Brazil.....	Mia P	1.41	.45	T,Sa	.40
"	No P	1.56	.45	M,F	.40
"	Bro P	1.56	.45	Su,Th	.40
"	Lgs P	2.13	.45	Sa,W	.40

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Cristobal, Canal Zone...	Mia P	.76	.35	Dly	.15
"	No P	.92	.35	M,T,Th,F,Sa	.15
"	Bro P	.92	.35	Dly	.15
"	Lgs P	1.46	.45	Dly	.15
Cuenca, Ecuador.....	Mia P	1.06	.35	Su,W,F	.30
"	No P	1.15	.45	T,Th,Sa	.30
"	Bro P	1.15	.45	M,W,F	.30
"	Lgs P	1.76	.45	Su,T,Th	.30
Curacao, N. W. I.....	— P	via M	arac	aibo, Ven.	
"	Mia K	0.73	.45*	W,Sa.	.25
Curityba, Brazil.....	Mia P	1.60	.45	Su,W,Th,F	.40
"	No P	2.00	.45	T,Th,Sa	.40
"	Bro P	2.00	.45	M,T,W,F	.40
"	Lgs P	2.58	.60	Su,M,T,Th	.40
David, Panama.....	Mia P	.82	.35	Dly	.15
"	No P	.85	.35	M,T,Th,F,Sa	.15
"	Bro P	.85	.35	Dly	.15
"	Lgs P	1.38	.45	Dly	.15
Esmeraldas, Ecuador...	Mia P	.99	.35	Su	.30
"	No P	1.11	.45	Sa	.30
"	Bro P	1.11	.45	F	.30
"	Lgs P	1.71	.45	Th	.30
Florianopolis, Brazil....	Mia P	1.63	.45	Su,W,F	.40
"	No P	2.11	.45	T,Th,Sa	.40
"	Bro P	2.11	.45	M,W,F	.40
"	Lgs P	2.68	.60	Su,T,Th	.40
Fort de France, Martinique.....	Mia P	.71	.35	Su	.15
"	No P	1.00	.35	M	.15
"	Bro P	1.16	.45	Sa	.15
"	Lgs P	1.78	.45	F	.15
Fortalesa, Brazil..... (Ceara)	Mia P	1.23	.45	M,T,W,Th, Sa,Su	.40
"	No P	1.54	.45	M,T,F,Sa	.40
"	Bro P	1.54	.45	Su,M,T,Th, F,Sa	.40
"	Lgs P	2.10	.45	M W,Th,F, Sa,Su	.40
Georgetown, British Guiana.....	Mia P	.90	.45	Dly	.30
"	No P	1.24	.45	Dly	.30
"	Bro P	1.24	.45	M,T,Th,F,Sa	.30
"	Lgs P	1.88	.45	Dly	.30
Guadalajara, Mexico...	Bro P	.43	.20	Dly	.30
"	Lgs P	.59	.35	Dly	.10
Guantanamo, Cuba....	Mia P	.28	.20	Dly	.10
Guatemala City, Gua...	Mia P	.74	.35	Dly	.10
"	No P	.53	.35	Dly	.12
"	Bro P	.53	.35	M,T,Th,F,Sa	.12
"	Lgs P	1.08	.45	Dly	.12
Guayaquil, Ecuador....	Mia P	1.04	.35	Dly	.12
"	No P	1.15	.45	Dly	.30
"	Bro P	1.15	.45	M, T,Th,F,Sa	.30
"	Lgs P	1.75	.45	Dly	.30
Havana, Cuba.....	Mia P	.20	.17	Dly	.30
"	MiaEA	.20	.18	Twice Dly	.10
Hermosillo, Mexico....	Bro P	.77	.40	Dly	.10
"	Lgs P	.24	.17	Dly	.10
Iguassu Falls, Brazil....	Mia P	1.69	.45	Dly	.10
"	No P	1.91	.45	Th	.40
"	Bro P	1.91	.45	T	.40
"	Lgs P	2.48	.60	T	.40
Ixtepec, Mexico.....	Mia P	.76	.35	M	.40
"	No P	.76	.35	M,W,F	.10
"	Bro P	.41	.20	M,T,Th,F,Sa	.10
"	Lgs P	.89	.35	Su,M,T,W, Th,F	.10
				Su,M,T,W, Th,Sa	.10
Joao Pessoa, Brazil..... (Cabedello)	Mia P	1.25	.45	.....	.40
"	No P	1.64	.45	.....	.40
"	Bro P	1.64	.45	.....	.40
"	Lgs P	2.20	.45	.....	.40
Kingston, Jamaica.....	Mia P	.39	.25	T,W,Th,F,Su	.10
"	Mia K	.35	.35*	W	.10
La Guaira, Venezuela...	Mia P	.81	.35	M,W,F,Sa	.25
"	Mia K	.75	.45*	W,Sa	.25
"	No P	1.15	.45	M,T,Th,F,Sa	.25
"	Bro P	1.15	.45	Dly	.25
"	Lgs P	1.75	.45	Dly	.25

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per ½ Oz.
		Per Lb.	Per $100 Value		
La Paz, Bolivia	Mia P	1.25	.45	Su,Tu,W,Sa	.35
"	No P	1.30	.45	M,T,F,Sa	.35
"	Bro P	1.30	.45	Su,M,Th,F	.35
"	Lgs P	1.95	.45	Su,W,Th,F	.35
Lima, Peru	Mia P	1.18	.45	Dly	.30
"	No P	1.24	.45	M,T,Th,F,Sa	.30
"	Bro P	1.24	.45	Dly	.30
"	Lgs P	1.88	.45	Dly	.30
Loja, Ecuador	Mia P	1.08	.45	Su,W,F	.30
"	No P	1.17	.45	T,Th,Sa	.30
"	Bro P	1.17	.45	M,W,F	.30
"	Lgs P	1.78	.45	Su,T,Th	.30
Maceio, Brazil	Mia P	1.26	.45	Su,M,T,Th,Sa	.40
"	No P	1.68	.45	M,T,F,Sa	.40
"	Bro P	1.68	.45	T,Th,F,Sa,Su	.40
"	Lgs P	2.24	.45	M,W,Th,F,Sa	.40
Managua, Nicaragua	Mia P	.86	.35	Dly	.12
"	No P	.71	.35	M,T,Th,F,Sa	.12
"	Bro P	.71	.35	Dly	.12
"	Lgs P	1.22	.45	Dly	.12
Manaos, Brazil	Mia P	1.24	.45	T,Sa	.40
"	No P	1.56	.45	M,F	.40
"	Bro P	1.56	.45	Su,Th	.40
"	Lgs P	2.13	.45	W,Sa	.40
Manta, Ecuador	Mia P	1.03	.35	Th,Sa	.30
"	No P	1.14	.45	T,F	.30
"	Bro P	1.14	.45	T,Th	.30
"	Lgs P	1.74	.45	M,W	.30
Manzanillo, Cuba	Mia P	.26	.20	Dly	.10
Maracaibo, Venezuela	Mia P	.69	.35	M,T,W,F,Su	.25
"	Mia K	.75	.45*	W,Sa	.25
"	No P	1.08	.45	M,T,Th,F,Sa	.25
"	Bro P	1.08	.45	Dly	.25
"	Lgs P	1.66	.45	Dly	.25
Maturin, Venezuela	Mia P	.89	.35	Dly	.25
"	No P	1.19	.45	M,T,Th,F,Sa	.25
"	Bro P	1.19	.45	Dly	.25
"	Lgs P	1.80	.45	Dly	.25
Mazatlan, Mexico	Bro P	.57	.35	Dly	.10
"	Lgs P	.45	.20	Dly	.10
Medellin, Colombia (via Barranquila)	Mia P	1.06	.35	Su,T,W,F	.35
Medellin, Colombia (via Balboa)	Mia P	1.06	.35	Sa	.35
"	No P	1.10	.45	T,F,Sa	.35
"	Bro P	1.10	.45	M,Th,F	.35
"	Lgs P	1.65	.45	Su,W,Th	.35
Mendoza, Argentina	Mia P	1.41	.45	M,W,Th,Sa	.40
"	No P	1.55	.45	T,F,Sa	.40
"	Bro P	1.55	.45	M,T,Th,Sa	.40
"	Lgs P	2.11	.45	M,W,F,Su	.40
Merida, Mexico	Mia P	.37	.20	Su,W,F	.10
"	No P	.37	.20	M,T,Th,F,Sa	.10
"	Bro P	.55	.35	Dly	.10
"	Lgs P	1.04	.35	Dly	.10
Mexicali, Mexico	Lgs P	.20	.17	Dly	.10
Mexico City, Mexico	Mia P	.64	.35	Su,W,F	.10
"	No P	.64	.35	M,T,Th,F,Sa	.10
"	Bro P	.26	.20	Dly	.10
"	Lgs A	.67	.35	Dly	.10
"	Lgs P	.70	.20	Dly	.10
Mexico City, Mexico	Fv A	.40	.20	Dly	.10
"	Eo A	.42	.20	Dly	.10
"	Sq A	.74	.20	Dly	.10
Minatitlan, Mexico	Mia P	.53	.35	Su,W,F	.10
"	No P	.53	.35	M,T,Th,F,Sa	.10
"	Bro P	.39	.20	Dly	.10
"	Lgs P	.86	.35	Dly	.10
Monterrey, Mexico	Fv A	.33	.20	Dly	.10
"	Eo A	.34	.20	Dly	.10
"	Lgs A	.62	.20	Dly	.10
"	Sq A	.74	.20	Dly	.10
Montevideo, Uruguay‡					
Nassau, Bahamas	Mia P	.20	.17	Dly ex Su,W	.10
Natal, Brazil	Mia P	1.25	.45	M,T,W,Th,Sa	.40
"	No P	1.61	.45	M,T,F,Sa	.40
"	Bro P	1.61	.45	Su,M,T,Th,Sa	.40
"	Lgs P	2.18	.45	Su,M,W,F,Sa	.40
Oaxaca, Mexico	Mia P	.73	.35	M,W,F	.10
"	No P	.73	.35	T,Th,Sa	.40
"	Bro P	.35	.20	Su,T,Th	.10
"	Lgs P	.81	.35	M,W,Sa	.10

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per ½ Oz.
		Per Lb.	Per $100 Value		
Oruro, Bolivia	Mia P	1.26	.45	Su,T,W,Sa	.35
"	No P	1.33	.45	M,T,F,Sa	.35
"	Bro P	1.33	.45	Su,M,Th,F	.35
"	Lgs P	1.95	.45	Su,W,Th,Sa	.35
Panama City, Panama	(*See Balboa, C.Z.*)				
Para (Belem), Brazil	Mia P	1.13	.45	Dly	.40
"	No P	1.34	.45	M,T,Th,F,Sa	.40
"	Bro P	1.34	.45	Dly	.40
"	Lgs P	1.95	.45	Dly	.40
Paramaribo, Sur	Mia P	.97	.35	Dly	.30
"	Mia K	1.21	.60*	Sa	.30
"	No P	1.25	.45	M,T,Th,F,Sa	.30
"	Bro P	1.25	.40	Dly	.30
"	Lgs P	1.90	.45	Dly	.30
Parnahyba, Brazil	Mia P	1.21	.45	.....	.40
"	No P	1.48	.45	.....	.40
"	Bro P	1.48	.45	.....	.40
"	Lgs P	2.04	.45	.....	.40
Point a Pitre, Guadeloupe	Mia P	.66	.35	Su	.15
"	No P	.98	.35	M	.15
"	Bro P	1.14	.45	Su	.15
"	Lgs P	1.74	.45	Sa	.15
Port au Prince, Haiti	Mia P	.37	.20	Dly	.10
"	Mia K	.39	.35*	Sa	.10
Port of Spain, Trinidad	Mia P	.79	.35	Dly	.15
"	Mia K	1.00	.55*	W,Sa	.15
"	No P	1.20	.45	M,T,Th,F,Sa	.15
"	Bro P	1.20	.45	Dly	.15
"	Lgs P	1.81	.45	Dly	.15
Porto Alegre, Brazil	Mia P	1.70	.45	T,W,Th,F Sa,Su	.40
"	No P	2.19	.45	M,T,Th,F,Sa	.40
"	Bro P	2.19	.45	M,T,W,Th, F,Su	.40
"	Lgs P	2.75	.60	M,T,W,Th, Sa,Su	.40
Preston, Cuba	Mia P	.24	.17	Dly	.10
Puerto Suarez, Bolivia	Mia P	1.41	.45	Sa	.35
"	No P	1.56	.45	F	.35
"	Bro P	1.56	.45	Th	.35
"	Lgs P	2.13	.45	W	.35
Quito, Ecuador	Mia P	.97	.35	Dly	.30
"	No P	1.09	.45	M,T,Th,F,Sa	.30
"	Bro P	1.09	.45	Dly	.30
"	Lgs P	1.68	.45	Dly	.30
Recife (Pernambuco), Brazil	Mia P	1.26	.45	Su,M,T,W, Th,Sa	.40
"	No P	1.65	.45	M,T,F,Sa	.40
"	Bro P	1.65	.45	Su,M,T,Th, F,Sa	.40
"	Lgs P	2.21	.45	Su,M,W,Th, F,Sa	.40
Rio de Janeiro	Mia P	1.50	.45	Su,T,W,Th, F,Sa	.40
"	No P	1.98	.45	M,T,Th,F,Sa	.40
"	Bro P	1.98	.45	M,T,W,Th, F,Su	.40
"	Lgs P	2.54	.60	Su,M,T,W, Th,Sa	.40
Robore, Bolivia	Mia P	1.38	.45	Sa	.35
"	No P	1.51	.45	F	.35
"	Bro P	1.51	.45	Th	.35
"	Lgs P	2.08	.45	W	.35
Salinas, Ecuador	Mia P	1.05	.35	Th,Sa	.30
"	No P	1.15	.45	T,F	.30
"	Bro P	1.15	.45	T,Th	.30
"	Lgs P	1.75	.45	M,W	.30
Salta, Argentina	Mia P	1.30	.45	Su,T,F	.40
"	No P	1.45	.45	M,Th,Sa	.40
"	Bro P	1.45	.45	Su,W,F	.40
"	Lgs P	2.03	.45	T,Th,Sa	.40

* These rates are only due if consignments are shipped with declared value.

‡ Shipments for Montevideo must be assessed rates to Buenos Aires plus 55c per 2 lbs. or fraction thereof (min. 55c) for forwarding by other carrier to Montevideo, plus $1.10 per shipment transfer charge at Buenos Aires.

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
San Ignacio, Bolivia	Mia P	1.33	.45	Sa	.35
"	No P	1.48	.45	F	.35
"	Bro P	1.48	.45	Th	.35
"	Lgs P	2.04	.45	W	.35
San Jose, Bolivia	Mia P	1.35	.45	Sa	.35
"	No P	1.50	.45	F	.35
"	Bro P	1.50	.45	Th	.35
"	Lgs P	2.08	.45	W	.35
San Jose, Costa Rica	Mia P	.89	.35	Dly	.15
"	No P	.76	.35	M,T,Th,F,Sa	.15
"	Bro P	.76	.35	Dly	.15
"	Lgs P	1.31	.45	Dly	.15
San Juan, Puerto Rico	Mia P	.53	.35	Dly	.10
San Salvador, El Salvador	Mia P	.79	.35	Dly	.12
"	No P	.61	.35	M,T,Th,F,Sa	.12
"	Bro P	.61	.35	Dly	.12
"	Lgs P	1.14	.45	Dly	.12
Santa Cruz, Bolivia	Mia P	1.28	.45	W,Sa	.35
"	No P	1.43	.45	T,F	.35
"	Bro P	1.43	.45	M,Th	.35
"	Lgs P	1.99	.45	Su,W	.35
Santiago, Chile	Mia P	1.38	.45	M,W,Th,Sa	.40
"	No P	1.51	.45	T,F,Sa	.40
"	Bro P	1.51	.45	M,T,Th,Sa	.40
"	Lgs P	2.08	.45	Su,M,W,F	.40
Santiago, Cuba	Mia P	.26	.20	Dly	.10
Sao Luis, Brazil	Mia P	1.19	.45	M,T,Th,Sa	.40
"	No P	1.43	.45	M,T,F,Sa	.40
"	Bro P	1.43	.45	Su,T,Th,Sa	.40
"	Lgs P	1.99	.45	M,W,F,Sa	.40
Sao Paulo, Brazil	Mia P	1.55	.45	Su,T,W,Th, F,Sa	.40
"	No P	2.04	.45	M,T,Th,F,Sa	.40
"	Bro P	2.04	.45	M,T,W,Th, F,Su	.40
"	Lgs P	2.60	.60	Su,M,T,W, Th,Sa	.40
Sao Salvador, Brazil (Bahia)	Mia P	1.28	.45	Su,M,T,W, Th,Sa	.40
"	No P	1.76	.45	Su,M,T,Th, F,Sa	.40
"	Bro P	1.76	.45	Su,M,T,Th, F,Sa	.40
"	Lgs P	2.33	.60	Su,M,W,Th, F,Sa	.40
St. Johns, Antigua British West Indies	Mia P	.64	.35	Su	.15
"	No P	.96	.35	M	.15
"	Bro P	1.13	.45	Su	.15
"	Lgs P	1.73	.45	Sa	.15
St. Thomas, V. I.	Mia P	.57	.35	Su	.10
"	No P	.90	.35	M	.10
"	Bro P	1.10	.45	Su	.10
"	Lgs P	1.68	.45	Sa	.10
Talara, Peru	Mia P	1.08	.45	Dly	.30
"	No P	1.17	.45	M,T,Th,F,Sa	.30
"	Bro P	1.17	.45	Dly	.30
"	Lgs P	1.79	.45	Dly	.30
Tampico, Mexico	Bro P	.20	.17	Dly	.10
"	Lgs P	.81	.35	Dly	.10
Tapachula, Mexico	Mia P	.74	.35	M,W,F	.10
"	No P	.74	.35	M,T,Th,F,Sa	.10
"	Bro P	.53	.35	Dly	.10
"	Lgs P	1.02	.35	Dly	.10
Tegucigalpa, Honduras	Mia P	.82	.35	Dly	.12
"	No P	.68	.35	M,T,Th,F,Sa	.12
"	Bro P	.68	.35	Dly	.12
"	Lgs P	1.18	.45	Dly	.12
Tres Lagaos, Brazil	Mia P	1.53	.45	T,Sa	.40
"	No P	1.66	.45	M,F	.40
"	Bro P	1.66	.45	Su,Th	.40
"	Lgs P	2.23	.45	Sa,W	.40
Tucuman, Argentina	Mia P	1.34	.45	Su,T,F	.40
"	No P	1.49	.45	M,Th,Sa	.40
"	Bro P	1.49	.45	Su,W,F	.40
"	Lgs P	2.05	.45	T,Th,Sa	.40
Turbo, Colombia (via Barranquilla)	Mia P	1.06	.35	Su,T,W,F	.35
Turbo, Colombia (via Balboa, C. Z.)	Mia P	1.06	.35	Sa	.35
"	No P	1.10	.45	T,F,Sa	.35
"	Bro P	1.10	.45	M,Th,F	.35
"	Lgs P	1.65	.45	Su,W,Th	.35
Tuxpan, Mexico	Bro P	.20	.17	Dly	.10
"	Lgs P	.83	.35	Dly	.10
Tuxtla,Gutierrez,Mexico	Mia P	.81	.35	M,W,F	.10
"	No P	.81	.45	T,Th,Sa	.10
"	Bro P	.45	.20	Su,T,Th	.10
"	Lgs P	.93	.35	M,W,Sa	.10
Uyuni, Bolivia	Mia P	1.26	.45	Su,T	.35
"	No P	1.38	.45	M,Sa	.35
"	Bro P	1.38	.45	Su,F	.35
"	Lgs P	1.95	.45	Th,Sa	.35
Veracruz, Mexico	Mia P	.57	.35	Su,W,F	.10
"	No P	.57	.35	Su,W	.10
"	Bro P	.33	.20	Dly	.10
"	Lgs P	.79	.35	Dly	.10
Victoria, Brasil	Mia P	1.41	.45	Su,T	.40
"	No P	1.90	.45	M,Sa	.40
"	Bro P	1.90	.45	Su,F	.40
"	Lgs P	2.46	.60	Th,Sa	.40
Villahermosa, Mexico	Mia P	.49	.35	Su,W,F,	.10
"	No P	.49	.35	M,T,Th,F,Sa	.10
"	Bro P	.43	.20	Dly	.10
"	Lgs P	.90	.35	Dly	.10

ATLANTIC LINES

Botwood, Newfoundland	Nyk P	.81	.40	Twice wk	.15
England via Foynes*	Nyk E	(Rates	on	Application)	.30
"	Nyk P	(Rates	on	Application)	.30
Foynes,Eire via Botwood	Nyk P	1.78	.50	Twice wk	.30
" " via Lisbon	Nyk P	2.00	.50	Fortnightly	.30
"	Nyk E	2.00	.50	.....	.30
Hamilton, Bermuda	Nyk F	.55	.25	Twice wk	.10
Horta, Azores	Nyk P	1.70	.40	Weekly	.30
Lisbon, Portugal	Nyk P	2.00	50	Weekly	.30
Scotland via Foynes*	Nyk E	(Rates	on	Application)	.30
"	Nyk P	(Rates	on	Application)	.30
Shediac, N. B.	Nyk P	.51	.25	Twice wk	.06
Wales via Foynes*	Nyk E	(Rates	on	Application)	.30
"	Nyk P	(Rates	on	Application)	.30

CANADIAN LINES

		Note			
Calgary, Alb.	Nyk T	1.02	†	Dly	.06
Edmonton, Alb.	Nyk T	1.06	†	Dly	.06
Halifax, N. S.	Nyk T	.31	†	Dly	.06
Lethbridge, Alb.	Nyk T	.88	†	Dly	.06
" "	CubW	.04	†	Dly	.06
London, Ont.	Nyk T	.22	†	Dly	.06
Moncton, N. B.	BbNE	.06	†	Dly	.06
Montreal, Que.	Nyk C	.12	†	Dly	.06
" "	Nyk T	.12	†	Dly	.06
North Bay, Ont.	Nyk T	.27	†	Dly	.06
Ottawa, Ont.	Nyk T	.18	†	Dly	.06
Regina, Sask.	Nyk T	.80	†	Dly	.06
St. John, N. B.	Nyk T	.31	†	Dly	.06
St. Johns, N. F.	Nyk T	.58	†	Dly	.06
Sydney, N. S.	Nyk T	.36	†	Dly	.06
Toronto, Ont.	Nyk A	.16	†	Dly	.06
"	Nyk T	.16	†	Dly	.06
Vancouver, B. C.	Ste U	.04	†	Dly	.06
"	Nyk T	.96	†	Dly	.06
Windsor, Ont.	Nyk A	.20	†	Dly	.06
"	Cg A	.12	†	Dly	.06
"	Nyk T	.20	†	Dly	.06
Winnipeg, Man.	GfNW	.04	†	Dly	.06
"	Nyk T	.60	†	Dly	.06

* British Overseas Airways Corp. carries from Foynes, Ireland to destinations in England, Scotland, and Wales.

† Canadian air express is carried on the same basis as air express within the U. S.: $50 declared value free; excess charged at 10 cents per $100 or fraction thereof.

NOTE: The per pound rate shown in this column is based on the average package weighing 25 lbs., i.e.: A 1 lb. package from New York to Ontario would cost $1—25 lbs. $4. Average cost per pound: 16 cents.

Selling Air Transportation

Aviation has learned a lot in the last decade. It has learned, for instance, that it can cover great distances with speeds almost beyond the imagination of man; and it has learned too that the airplane, which was born in peace, can be a powerful and deadly weapon of war. Now it is learning that this speedy vehicle has a role in commerce—a new role that is destined to play a large part in the development of this nation as well as those distant nations it has so effectively brought into one closely-knit family.

In the latter lesson, however, aviation has been slow in grasping the significance of selling shipping by air. It has been hindered by confusion attributable to the premature introduction of matters which when viewed in their proper perspective will at a later date be important considerations. AIR TRANSPORTATION feels that now is the time for airline officials to call a halt to the debates they have been waging on the merits of a particular brand of international operation; and to direct their attention to planning an imposing system of commerce by air.

It is obvious that we will have international operations, and that the United States will hold a major position in that field. The extent of such operations and their subsequent success; their profit and loss ratios must depend on the volume of passenger and freight traffic. Let's plan now for that volume.

AIR TRANSPORTATION has before it a big job to arouse public interest in the advantages of transportation by air. Today it is a popular subject on speaking platforms. It is regrettable that such an uncommonly good opportunity for salesmanship is not used to better advantage.

It is true that the debates on the course of international operations are lively and entertaining, but what of the audience. Do they, as a result of an impassioned plea for free enterprise or the chosen instrument policy, walk away convinced of the advantages of traveling or shipping by air. Ask them, and let their replies be a guide for the future.

Congratulations

It is good news to learn that Panagra is celebrating this month an aviation birthday of fifteen years. Little did we know then, when the first airmail from the United States arrived in Peru over the pioneering air lane of Pan American-Grace Airways, what a story of achievement, enterprise and ingenuity would be written in a decade and a half.

It took nine days then to make the trip from New York to Buenos Aires. On daily schedules today, Douglas DC-3's link these two cities through alternating routes along and across the Andean mountains in three and a half days. In the post-war period, Lockheeds or probably DC-4's will bring even closer together the two Americas.

Panagra's story reflects an expansion of air routes and services, and the addition in 1942 of the first all-cargo airline to serve this hemisphere.

But even more important, however, Panagra has served as a weapon to force the German-controlled airlines from the skyways of South America. Paralleling first the German routes, Panagra subsequently replaced the services of the Sedta in Ecuador. Later it moved into Peru and Argentina, Chile and Bolivia.

Our congratulations to Panagra for a job well done!

Let's Hear from You

AIR TRANSPORTATION *welcomes the personal views of its readers on air cargo and air commerce. It is only through the interchange of ideas and divergent points of view that we can hope to add a little if not much to the store of knowledge now being built up about an industry that is destined to become a vital force in world trade.*

The editors of AIR TRANSPORTATION *invite letters of comment, suggestion, and criticism in the hope that fair and impartial discussion will help us to understand the problems of air transportation a little better.*

Letters for publication should be addressed to the editor, while those not intended for the columns of this publication should be so marked.

3 Important Publications
FOR THE FOREIGN TRADER

CUSTOM HOUSE GUIDE

FOREIGN SHIPPERS' ENCYCLOPEDIA
(Published Annually)
"7 volumes in 1"
1,500 Pages

AMERICAN IMPORT & EXPORT BULLETIN

(Published Monthly)
Supplementary Service to
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The new DC-4 express liners, with a cruising speed 50 miles an hour faster than today's standard planes, are expected to clip six hours off coast to coast and even more off foreign air cargo schedules.

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